



### **DUROPURE™**

Recirculating Solution for  
Painting/Coating/Surface Preparation  
13,500 CFM to 200,000 CFM



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## Product Data Sheet – DuroPure™

**Applications**

Dust Control, Welding, Painting and Coating

**Ducting**

Ducting is not required with a DuroPure™ System. Air filtered through the six stages of filtration are recirculated back into shop space. Makeup air is not required.

**Tapered Airflow Design**

The Duroair product line is a cross draft design. Shop air enters the enclosure through the front filter doors. Clean air travels in a horizontal direction towards the back of the enclosure using Duroair's patented tapered airflow design. Airflow is drawn through multiple stages of filtration and is discharged upward.

The filter assembly creates a tapered airflow which directs air down the center of the enclosure maximizing control of overspray and keeping the sidewalls clean. During the dry cycle, airflow rates are increased which creates a wicking process that reduces dry times without the need for heaters or blowers. The cross-draft exhaust is attached to an enclosure with air intake filters, housing a work piece.

- "Taper Draft" air flow to maximize velocities around the products being worked on and minimize overspray on enclosure walls
- Cross draft airflow creates a wicking process that decreases dry times without dirt transfer
- Exhaust system creates a negative pressure vacuum seal creating a clean purified environment.

**DuroPure™ Overview****Patented Six-Stage Filtration**

- 3 stages of particulate collection; captures paint particulate including hexavalent chromium (NESHAP 319) and particulate isocyanates
- 3 stage gas filtration, captures isocyanates in gas stage and destroys VOCs with two stages of carbon adsorption and 1 stage of UV PCO (photocatalytic oxidation) technology

The DuroPure™ scrubs the air of particulates including hexavalent chromium, isocyanates and VOCs (exceeds NESHAP 319 requirements) to allow cleansed air to be recirculated back into a workspace. Air leaving the exhaust system surpasses OSHA requirements. The DuroPure™ system is a plug and play system. It is constructed on wheels and can be deployed anywhere. Air is recirculated and no ducting or makeup air is required, saving significantly on capital and energy costs.

Duroair's DuroPure™ system is Defense Centers for Public Health – Aberdeen (DCPH-A) tested and verified by U.S. Army Engineers and Industrial Hygienists. Our DuroPure™ system mitigates exposure to hexavalent chromium, isocyanates and VOCs, meeting HQDA's mandate.

CFM	FAN SIZE	MOTOR SIZE	FLA @ 460/3/60	VFD	FILTER MONITORING GAUGE	NUMBER OF FILTERS EACH STAGE	NESHAP 319	VOC MONITOR	LEL MONITOR (optional)
13,500 CFM	30" Reverse Incline Fan	10 HP	14	✓	✓	6	✓	✓	✓
18,000 CFM	30" Reverse Incline Fan	15 HP	21	✓	✓	9	✓	✓	✓
25,000 CFM	34" Reverse Incline Fan	20 HP	27	✓	✓	12	✓	✓	✓
30,000 CFM	34" Reverse Incline Fan	25 HP	34	✓	✓	15	✓	✓	✓
36,000 CFM	2 x 30" Reverse Incline Fan	2 x 15 HP	42	✓	✓	18	✓	✓	✓
50,000 CFM	2 x 34" Reverse Incline Fan	2 x 20 HP	54	✓	✓	24	✓	✓	✓
60,000 CFM	2 x 34" Reverse Incline Fan	2 x 25 HP	68	✓	✓	30	✓	✓	✓
75,000 CFM	3 x 34" Reverse Incline Fan	3 x 20 HP	81	✓	✓	36	✓	✓	✓
90,000 CFM	3 x 34" Reverse Incline Fan	3 x 25 HP	102	✓	✓	45	✓	✓	✓

**Safety Features**

- Production air interlocked with fans for safety with fresh breathing air supplied into enclosure
- Exhaust system creates a negative pressure vacuum seal creating a clean purified environment. This is ideal for a retractable clean room and/or containing airborne particulates and chemicals.
- Custom designed Kidde Badger fire suppression system that will open and close with the enclosure
- VOC monitor
- LEL monitor (Optional)

**Fans**

Fans are designed using a reverse incline fan wheels with inlet cones. Non sparking construction. Fan sizes from 18" to 35" with 5hp to 25hp motors dependent on airflow requirements. Airflow designed at 3.5" static pressure.

**Variable Frequency Drive**

A VFD is used to give the user complete control of airflow and doubles as a soft starter to eliminate the need for a motor starter.

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**Control Panel**

The Control Panel is a lockable fused disconnect and is a C/UL and US/UL listed panel, with an on/off, speed dial control. Customer is required to supply building power. The control panel is prewired and contains an air solenoid for production air.

**LEL Monitor (Optional)**

LEL Monitor can be provided to ensure LEL does not reach set point (10% to 25% LEL). If LEL monitor reaches set point, the air solenoid is shut down to ensure no VOCs are produced.

**VOC Monitor**

Duroair uses the VOC C-21 model. It is a solid-state gas monitor capable of sensing a variety of gases and vapors and the most common application of the C-21 is for solvent vapors.

RESPONSE RANGES FOR SOME COMMON VOCs			
	First Detects PPM	Alarm (first red bar) PPM	TLV* PPM
Acetone	4-5	20-25	750
Benzene	5-10	25-50	10
Diacetone alcohol	5-10	25-50	50
Formaldehyde	1-5	15-25	0.1
Methylene chloride	8-10	40-50	50
Methyl ethyl ketone	3-5	15-20	200
Perchloroethylene	5	50	50
Toluene	3-5	15-25	50
Trichloroethylene	10-20	50-100	50

\*Threshold Limit Value. Average estimate of government industrial hygienists for repeated worker exposure

**Filters**

- Stage 1 Pre-filter
- Stage 2 Secondary Particulate
- Stage 3 Final Particulate
- Stage 4 Carbon
- Stage 5 PCO
- Stage 6 Carbon

**Fire Suppression**

The fire suppression system used on Duroair equipment is a dry chemical system (BC or ABC) designed by Kidde Badger and protects both exhaust system and the enclosure.

