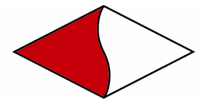


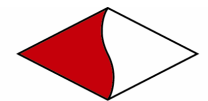
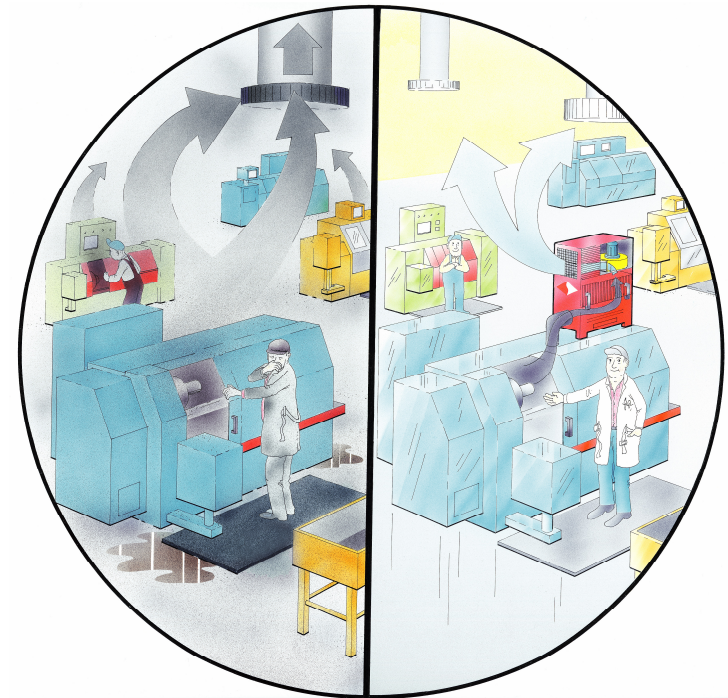
**Absolent
Smoke & Mist Collection
Systems
for Cold Forming Processes**



Absolent

Absolent Filtration Technology Development

- **Absolent Development to Address Basic Design Objectives and Overcome Competitive System Flaws and Inefficiencies.**
- **1. Meet and exceed Europe oil mist standards or TLV of 1.0 mg/m³ or US 0.5 mg/m³.**
- **2. Minimize maintenance for reduced operating costs & reduced filter change-outs.**
- **3. Reduce or minimize sound level of centrifugal fan discharge to meet sound level requirements.**



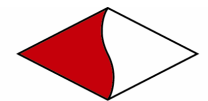
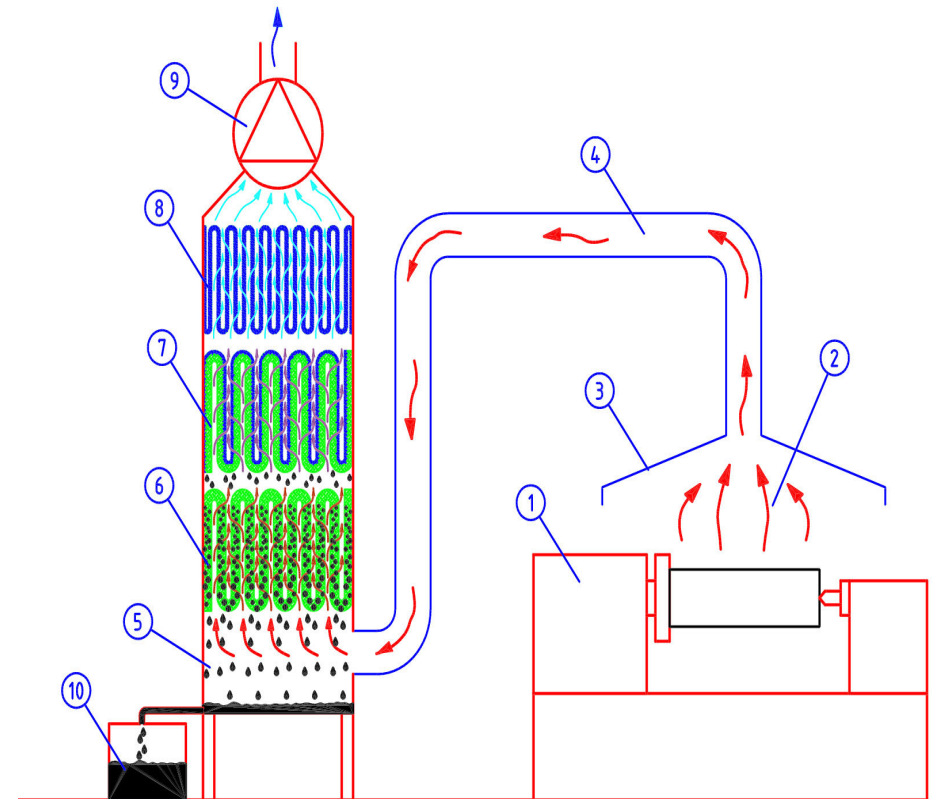
Absolent

The Absolent System Design Approach

The Absolent filter concept is a system that takes into consideration of the entirety and all details.

- Hood design
- Duct design
- Optimized airflow in duct system and filter unit
- Optimized filter media
- Optimized filter cassette design
- Optimized air stream and airflow through the filter media.

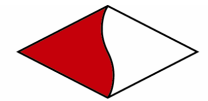
(patent pending)



Absolent

Absolent Saturation Technology Capture and Drain Capabilities

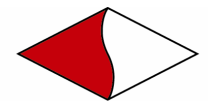
Absolent has developed a filter media mix of glass and polymer fibers that have unique characteristics regarding capture and draining of wet particles. Collected aerosol emissions are kept in a liquid state for free-draining or self-cleaning filtration.



Absolent

Absolent Fiber Bed Filter Cassette

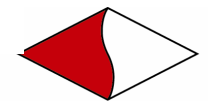
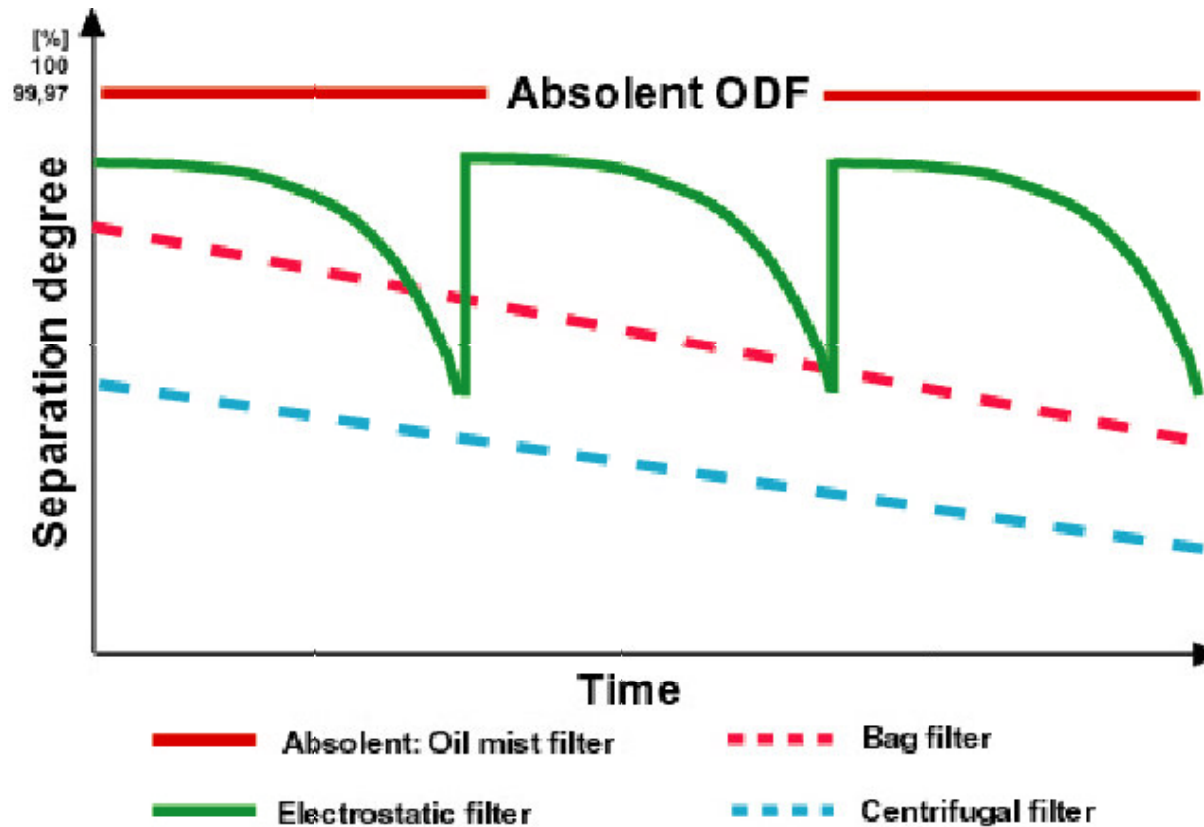
- **Aluminum separators between each fiber bundle.**
- **Industrial perimeter gasket closed cell neoprene oil & chemical resistant.**
- **Absolent fiber bed material.**
- **Approximate dry weight 45-47 lbs. with the ODF Series and 375 lbs. with the ODR Series.**
- **Application specific permeability (CFM/ sq. ft.).**



Absolent

Absolent Separation Efficiency

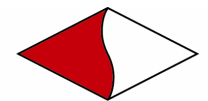
Designed for Continuous Duty



Absolent

Absolent Monitoring Tools

- **Test ports are standard for each filtration stage for aerosol measurements w/TSI DUST-TRAK laser photometer (services provided by IAQ).**
- **Differential, color-coded, pressure gauges monitors filter conditions with a visual display.**



Absolent

Absolent Oil Mist, Oil Smoke, and Coolant Mist ODR-Series Platform (Heavy-duty Series)

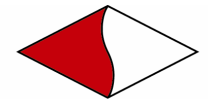


ODR-Series

Designed for applications with moderate to severe loading; 25-200 mg/m³ + inlet concentrations. Typical applications include; die-casting, cold-forming, heat-treating, Hydromat machining, and others...

Three-stage filtration systems complete with the following:

- Modular design (expandable)
- Differential pressure gauges
- Test ports
- Application specific fiber bed filters (two-stages)
- Final filter is a safety HEPA filter
- Direct driven TEFC centrifugal blowers with optional remote blowers
- Sound attenuated fan housings
- Automatic or gravity drain systems
- Heavy-duty construction with hinged access doors and a powder coat paint finish

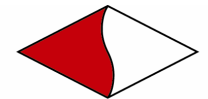


Absolent

Distinguished Customers of Absolent – Partial List

- Mazak
- Borg Warner Automotive
- Danaher Tool Group
- Black and Decker US, Inc
- Sandvik Coromant Company
- GKN Automotive, Inc
- Eaton Corporation
- Kennametal Inc
- Ford Corporation
- Robert Bosch Corporation
- INA Bearings
- ZF Lemförder
- Timken Company
- Siemens Diesel Systems
- General Motors
- Hyundai
- Nissan
- Honda of America
- Rolls Royce Corporation
- Boeing Corporation
- American Axle Mfg.
- Heller Maschinen GmbH
- Alcan Automotive
- Volvo Corporation
- SAAB Corporation
- Hydro Automotive Structures
- Visteon Corporation
- Textron Fasteners
- SKF
- Alcoa
- Whirlpool Corporation

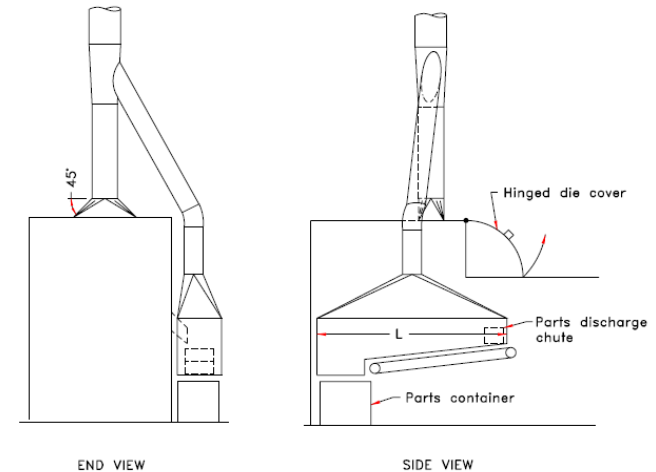
*“Thousands of well
established customers can’t
be wrong!”*



Absolent

Absolent Cold Forming Customers

- **Cold Forming**
 - Since 1995, Absolent has installed multiple ODR 3000's in cold forming applications around the world
 - Each system was designed with customer to meet the needs of the specific application
 - Cold Forming sample customers include:
 - Danaher
 - Rumco
 - Alcoa Fasteners
 - Blue Ridge Metal
 - Milwaukee Wire
 - Tridon Mfg.
 - Textron Fasteners



Cold header :

$Q = 750 \text{ cfm/ft}^2$ of die opening
Minimum duct velocity = 3500 fpm
 $h_a = 1.0 VP_s + 0.25 VP_d$

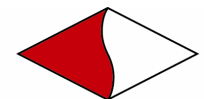
Parts discharge and container :

$Q = 100 \text{ cfm/ft}$ of hood length
Minimum duct velocity = 3500 fpm
 $h_a = 0.25 VP_d$

AMERICAN CONFERENCE
OF GOVERNMENTAL
INDUSTRIAL HYGIENISTS

COLD HEADING MACHINE
VENTILATION

DATE 11-90 FIGURE VS-45-04



Absolent

System Design Procedures

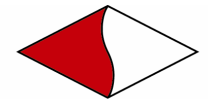
Cold Forming Process & Absolent Design Parameters



- Die Cavity Hood & Duct Connection
 - Tie into die cavity or sound enclosure for primary collection of oil smoke & mist

- Conveyor
 - Secondary drop for conveyor
 - Duct tap for conveyor lid or capture hood

- Finished Goods / Scrap Bin
 - Install canopy hood or flexible hose drop over or into bins

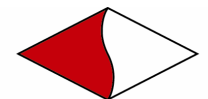


Absolent

Successful Installation Planning

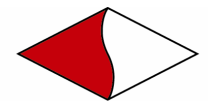


- **Installation**
 - Proper installation is final piece to a successful installation
 - Absolent reps have trained technicians that install Absolent products on a weekly basis
 - To save money, some customers elect to perform their own installation
 - We strongly recommend hiring an Absolent rep supervisor to assist with installation
 - A properly designed system can still have problems if not installed correctly



Absolent

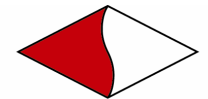
Cold Forming Customers & Installation Data – Partial List



Absolent

Textron Fasteners – Decorah, IA

- ODR 3000 on 3 Cold Headers
 - Average discharge concentration from Absolent ODR-3000 exhaust plenum 0.021 mg/m³ well below current and future OSHA Oil Mist PEL.
 - Stand mounted units serving several cold headers.
 - Units include automatic drain back packages and control panels.
- Two-years maintenance free operations to date
- Absolent solution used in multiple Textron Facilities across the US



Absolent

Federal Screw Works Traverse City, MI



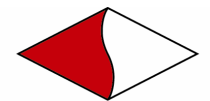
- **Absolent ODR-3000**
 - Replaced SMOG-HOG SG-4 model.
 - Customer seeking relief from expensive SMOG-HOG PM programs.
- **Anticipated maintenance 2-4 year filter life.**
- **Customer's unit includes automatic drain back pump package and IEC custom electrical control panel.**



Absolent

Diversified Fastening Systems Charles City, IA

- ODR 3000 on Two (2) Cold Headers
 - Heavy load concentrations; over 200 mg/m³ mist level concentrations tested in the inlet plenum.
 - Units utilized include automatic pump back package and IEC custom electrical control panel.
- Two-years maintenance free operations to date.

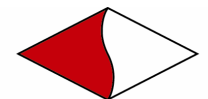


Absolent

Alcoa Fastening Systems Waco, TX



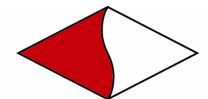
- Absolent ODR-3000 models with an automatic pump back packages and control panels.
- Loading is extremely heavy; demanding process load with continuous duty operation 24/7.
- Eleven units purchased within the first eighteen months.
- An additional 11 units are on order.
- The plan is to install (34) total systems to replace (66) Trion ESP air cleaners.
- IAQ provided Quick-Fit pre-fabricate ductwork and installation.



Absolent

What does Absolent offer?

- **Most efficient filtration system in the industry**
- **Quarterly monitoring program**
- **Guaranteed one to three year filter lifetime (low maintenance)**
- **Local Service, support and spare parts**
- **Predictable and proven performance for your application**
- **Exceeds current OSHA regulation of 5.0 MG/M3 for exhaust back to plant**
- **Exhaust air passing through Absolent will have less than 0.5 MG/M3 of contaminants pushed back to plant - - 99.99% filtration efficiency at exhaust**
- **Low total cost of ownership**
 - **Washable filters (eliminate expensive replacement filters and or PM programs with ESP units)**
 - **Reduced landfill waste & costs**



Absolent