

Concerned about
the air quality
in your factory?



Presenting clean air solutions
for the metalworking industry

filter-on.com

 **FILTER ON**
India Pvt. Ltd.
Healthy air. Healthy profits

Presenting clean air solutions for the metalworking industry



Causes for workplace pollution

In the metalworking industry, various processes such as welding, grinding, machining, soldering, plasma cutting, laser cutting and buffing are inevitable. Such processes emit fumes, smoke, mist and dust of fine sub-micron particulates which cause pollution and result in poor air quality at the workplace. These pollutants are menacing and may affect the health of employees, causing fatigue and illness.

The result is lower efficiency levels and increased absenteeism. This impacts productivity and sometimes also endangers the life of assets.

Welding fumes, oil mist, suspended particles and other such pollutants must be dealt with carefully using efficient extraction and filtration systems. Filter-On offers a variety of solutions to address such requirements.

Why you need clean air solutions

- Reduced health risks, so that employees feel better, leading to productivity improvement
- Avoid short-term and long-term health hazards to employees
- Reduce absenteeism due to illness
- Avoid damage to sensitive electrical and electronics equipment/machines
- Meet environmental regulations

- Over 5000 successful installations
- Proven expertise of over 35 years
- Present across India as well as globally
- Reputed customers from different industry verticals

- Efficient post-sales services through competent team
- Over 50 standard models to choose from
- Expertise in providing centralised systems

Here are the effective ways to tackle pollution arising from fumes, smoke, mist and dust

Clean air solutions from Filter-On

- Dry fumes extraction and filtration systems
- Oil mist extraction and filtration systems
- Dry dust collection systems
- Electrostatic air filtration system for kitchen fumes and other clean room applications



About Us

For over three decades, we have been providing efficient filtration solutions to ensure clean air at workplaces. Filter-On is one of the leading Indian companies in the field with over **5000 installations** in the metalworking industry and large kitchens.

Everyday, our equipment and systems clean over 200 million cubic metres of air, providing clean and respirable air to more than 50,000 employees across various industries.

Providing well-engineered solutions developed after thorough evaluation of your present and future requirements is the speciality of Filter-On. Our experience in this field and a vast range of offerings enable us to provide turnkey solutions for your requirements. This is irrespective of the nature of your activity, type of pollutants and the size of your factory. We have the right solutions and suitable systems to address the air quality challenges faced by you. Our team of qualified project

engineers is extensively trained to carefully understand your processes and problems. This ensures a practical and workable solution in the given environment, designed with a long-term perspective. This means a system that can be easily adapted to your changing requirements through modifying the layouts and upgradation.

We have a well-equipped manufacturing plant in Pune, India, having a large capacity to undertake multiple projects simultaneously. We are an ISO 9001:2015 certified company. The quality of our equipment and systems is ensured through proper engineering, using high quality materials and by adhering to advanced manufacturing practices. We also provide systematic training for maintenance, which enables you to use the systems more effectively.

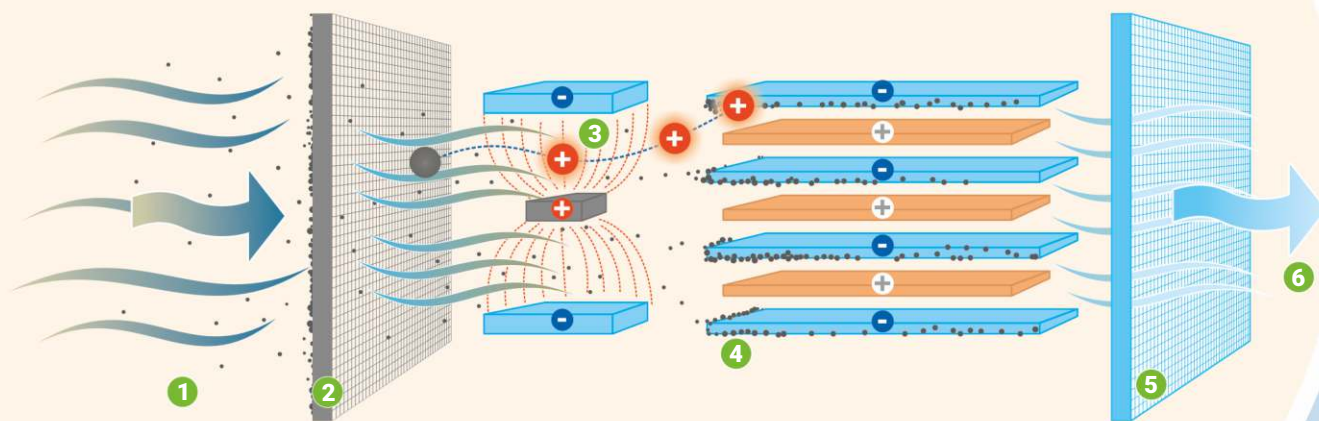
That a significant share of our business comes through repeat orders is itself a testimony to our expertise, quality and service.

Clean air solutions for

- Welding
- CNC Machining
- Grinding
- Plasma/Laser Cutting
- Gear Cutting/Grinding
- Soldering
- Laser Marking
- Spark Erosion Machines/EDM

Technology

Our equipment and systems are engineered around two types of technologies, viz. Electrostatic Filtration and Cartridge Type Dust Collection.



Electrostatic (ESP) Filtration Technology

1 Dirty air 2 Pre-filter 3 Ionizing electrodes 4 Collection plates 5 After-filter 6 Clean air

Electrostatic Filtration

The Electrostatic Precipitator technology is effectively used to filter fumes, smoke, mist particles and dust particles. The technology is based on the principle of two-stage electrostatic air filtration. In this system, air is passed through an electrostatic field where fine suspended particles get charged. The charged particles get attracted towards opposite charged electrode plates and precipitate. As a result of this process, smoke-free, clean air is released back into the surroundings from the system exhaust. The filter elements are metallic and

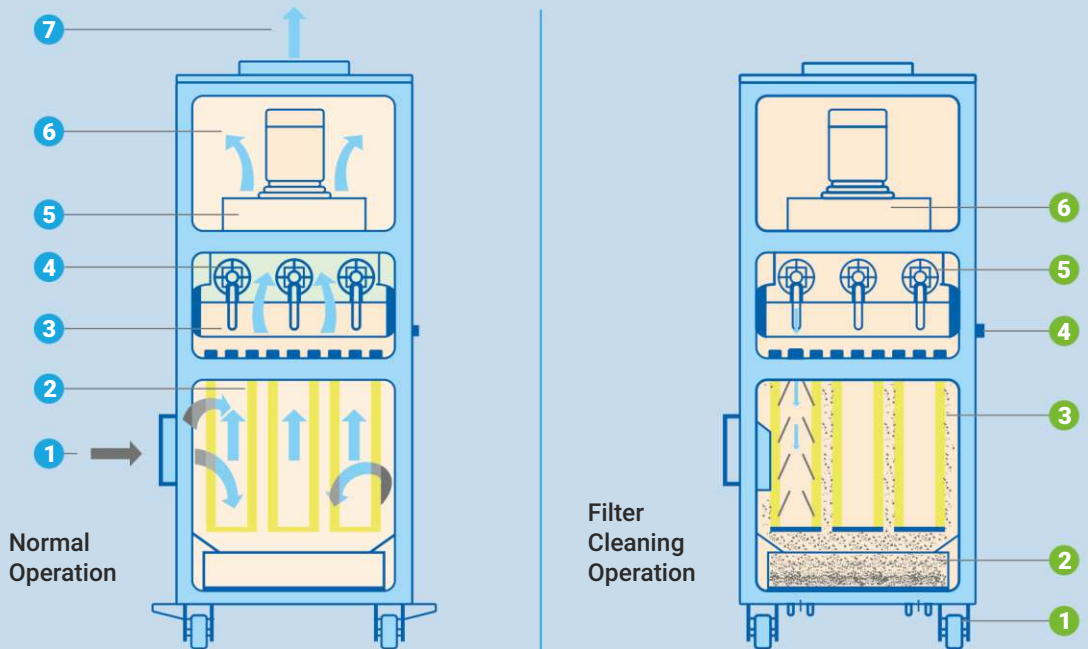
washable. This makes it easy to maintain and eliminate recurring costs of filter replacement. The filters are capable of handling the smallest size of particles (0.01 micron to 10 micron). We offer various models of electrostatic precipitators depending upon the application, location, operational layout and performance requirements.

The Electrostatic Filtration System from Filter-On demonstrates high efficiency and an excellent return on your investment.

Benefits

- Zero replacement cost
- Low pressure loss - Saves running cost
- High efficiency even for submicron particles

Presenting clean air solutions for the metalworking industry



Cartridge Type Dust Collector

- | | | | |
|----------------------|--------------------|----------------|---------------------|
| 1 Dirty air inlet | 5 Blower motor on | 1 Roller wheel | 4 Air connection |
| 2 Filter cartridge | 6 Baffle chamber | 2 Dust drawer | 5 Solenoid valve on |
| 3 Air holder | 7 Clean air outlet | 3 Pre-filter | 6 Blower motor off |
| 4 Solenoid valve off | | | |

Cartridge/Bag Type Dust Collectors

This is a simple system and can be easily deployed for separation of dry dust/solid particles generated during various processes such as plasma cutting, laser cutting, grinding, polishing, welding, laser marking, graphite machining, woodworking, etc. Dust-laden air is collected (sucked) and passed through a chamber where it passes through a cartridge filter. Fine dust particles get arrested

on the surface of the filter and clean air passes through, which is then released back into the environment/workplace. In this system, filter cleaning is automatically achieved through reverse pulsed jets of compressed air and the dust get accumulated in a bottom tray which can be easily removed and cleaned.

Benefits

- Routine maintenance is very easy as cleaning is automatic
- High efficiency
- Works effectively for heavy dust loads

Dry Fumes Extraction & Filtration



M-02/0.3K



M-03K (HEPA)



M-02/0.5K

M-02/0.3K

Electrostatic Filters

- **Accessories**
 - Flexible pipes
 - Semi-rigid aluminium pipes
 - Flexible arms
 - Slotted bench
 - Top suction hood
- **Suitable for**
 - Capturing & filtration of **small amount** of dry fumes
- **Applications**
 - Manual soldering stations
 - Laser marking fumes

M-03K (HEPA)

HDP Fine Filters + HEPA

- **Accessories**
 - Flexible pipes
 - Semi-rigid aluminium pipes
 - Flexible arms
 - Slotted bench
 - Top suction hood
- **Suitable for**
 - Capturing & filtration of **small amount** of dry fumes
- **Applications**
 - Manual soldering stations and laser marking fumes (In clean rooms)

Note: Needs filter replacement

M-02/0.5K

Electrostatic Filters

- **Accessories**
 - Flexible pipes
 - Semi-rigid aluminium pipes
 - Flexible arms
 - Suction hood
- **Two configurations**
 - Horizontal & vertical
- **Suitable for**
 - Capturing & filtration of **small amount** of dry fumes
- **Applications**
 - Spot welding
 - Manual soldering/ wave soldering stations
 - Laser marking fumes

Benefits

- Zero replacement cost
- Compact
- Low running costs
- Easy installation

These equipment and systems are ideal solutions for welding, soldering and laser marking stations.

Standard Products



M-02/1K & M-02/2K



M-02/4K

M-02/1K

Electrostatic Filters

- **Accessories**
 - Flexible pipes
 - Semi-rigid aluminium pipes
 - Flexible arms
 - Suction hood
- **Suitable for**
 - Capturing & filtration of **medium amount** of dry fumes
- **Applications**
 - Fume extraction from small manual welding booths
 - Welding rotators
 - Small SPMs

Best solution for single torch welding rotators

M-02/2K

Electrostatic Filters

- **Accessories**
 - Mounting stand
 - Flexible pipes
 - Semi-rigid aluminium pipes
 - Flexible arms
 - Suction hood
- **Suitable for**
 - Capturing & filtration of **medium to heavy amount** of dry fumes
- **Applications**
 - Fume extraction from manual welding booths
 - Welding rotators
 - Small SPMs
 - DID type welding stations
 - Small robotic welding cells

Our most popular model for manual weld stations, DID stations and small robotic stations

M-02/4K

Electrostatic Filters

- **Accessories**
 - Mounting stand
 - Flexible pipes
 - GI ducting
 - Suction hood/canopies
- **Suitable for**
 - Capturing & filtration of **medium to heavy amount** of dry fumes
- **Applications**
 - Fume extractor for large manual welding booths
 - Welding SPMs
 - DID type welding stations
 - Robotic welding cells

Dry Fumes Extraction & Filtration



M-02/6K

Advantages of individual units

- Flexibility in layout
- Easy to relocate
- Low power consumption
- Best part-load performance
- Ideal for phase-wise implementation

M-02/6K

Electrostatic Filters

- **Accessories**
 - Mounting stand
 - Flexible pipes
 - GI ducting
 - Suction hood/canopies
- **Suitable for**
 - Capturing & filtration of **medium to heavy** amount of dry fumes
- **Applications**
 - Fume extraction for large robotic welding booths
 - Welding SPMs
 - DID type welding stations

Medium and heavy duty models cater to the requirements of multiple workstations while ensuring economy, portability and efficiency.

Standard Products



M-02/1200

M-02/1200

Electrostatic Filters

- **Accessories**
 - Self-standing suction arm with hood
- **Suitable for**
 - Capturing & filtration of **medium to heavy** amount of dry fumes

M-02/1600

Electrostatic Filters

- **Accessories**
 - 2 nos. self-standing suction arms with hood
- **Suitable for**
 - Capturing & filtration of **medium to heavy** amount of dry fumes

- **Applications**
 - Portable fume extraction
 - Welding fumes extraction for large size jobs where canopy hoods can't be used
 - Maintenance type heavy welding e.g. earthmover buckets welding, propeller shaft welding in shipyards, etc.

Benefits

- Compact and portable
- No filter replacement needed
- Versatile - Can accommodate change in operations

Standard Products

This range of standalone models best meets the requirements of small machine shops and machines of different capacities.



M-02/1K-SP-(H)
& M-02/1K-SP-(V)



M-02/1K-DP-(H)
& M-02/1K-DP-(V)



M-02/2K-SP-(H)
& M-02/2K-SP-(V)

M-02/0.5K-DP-(H)

Electrostatic Filters

- **Accessories**
 - Flexible pipes
 - PVC rigid piping
 - Drain pipe
 - Stand
- **Suitable for**
 - Capturing & filtration of **medium** amount of oil mist and fumes
- **Applications**
 - Oil mist/coolant mist filtration for small CNC machines like ball pen tips making machines

M-02/1K-SP-(H) & M-02/1K-SP-(V)

Electrostatic Filters

- **Accessories**
 - Flexible pipes
 - PVC rigid piping
 - Drain pipe
 - Stand
- **Suitable for**
 - Capturing & filtration of **small** amount of oil mist and fumes
- **Applications**
 - Oil mist/coolant mist filtration for small CNC grinding machines using low pressure (less than 4 bar) coolants

M-02/1K-DP-(H) & M-02/1K-DP-(V)

Electrostatic Filters

- **Accessories**
 - Flexible pipes
 - PVC rigid piping
 - Drain pipe
 - Stand
- **Suitable for**
 - Capturing & filtration of **medium** amount of oil mist and fumes
- **Applications**
 - Oil mist/coolant mist filtration for small CNC grinding machines using high pressure (above 4 to 6 bar) coolants

Benefits

- Reliable ESP technology
- High efficiency for filtering oil mist and smoke
- Washable and reusable filters
- Lower operating costs
- Dual benefits - Safe environment and oil recovery as well

Oil & Coolant Mist Extraction & Filtration



M-02/2K-DP-(H)
& M-02/2K-DP-(V)



M-02/0.5K-DP-(H)

M-02/2K-SP-(H) & M-02/2K-SP-(V)

Electrostatic Filters

- **Accessories**
 - Flexible pipes
 - PVC rigid piping
 - Drain pipe
 - Stand
- **Suitable for**
 - Capturing & filtration of **small** amount of oil mist and fumes
- **Applications**
 - Oil mist/coolant mist filtration for small to medium size CNC machines using low pressure (less than 4 bar) coolants

Best suitable for 5-Axis grinding machines, CNC machining centres, gear grinding, etc.

M-02/2K-DP-(H) & M-02/2K-DP-(V)

Electrostatic Filters

- **Accessories**
 - Flexible pipes
 - PVC rigid piping
 - Drain pipe
 - Stand
- **Suitable for**
 - Capturing & filtration of **small** amount of oil mist and fumes
- **Applications**
 - Oil mist/coolant mist filtration for small to medium size CNC machines using high pressure (more than 4 to 6 bar) coolants

Oil & Coolant Mist Extraction & Filtration



M-02/2K-DP-(V)



M-02/4K-SP & M-02/4K-DP

M-02/4K-SP & M-02/4K-DP

Electrostatic Filters

- **Accessories**
 - Flexible pipes
 - PVC rigid piping
 - Drain pipe
 - Stand
- **Suitable for**
 - Capturing & filtration of **medium to high** amount of oil mist and fumes
- **Applications**
 - Oil mist/coolant mist filtration for medium to large size CNC machines using high pressure (more than 4 to 6 bar) coolants
 - Cold forging
 - Nut formers, etc.

M-02/6K-SP & M-02/6K DP

Electrostatic Filters

- **Accessories**
 - Flexible pipes
 - PVC rigid piping
 - Drain pipe
 - Stand
- **Suitable for**
 - Capturing & filtration of **medium to high** amount of oil mist and fumes
- **Applications**
 - Oil mist/coolant mist filtration for medium to large size CNC machines using high pressure (more than 4 to 6 bar) coolants
 - Cold forging
 - Nut formers, etc.

Centrifugal Mist Collectors are ideally suitable where water soluble coolants are used in machining and component cleaning applications.

Standard Products



Centrifugal Mist Collector



Centrifugal Mist Collector

Centrifugal Mist Collectors

Centrifugal & Media Type Filters

- **4 Models ranging from 400 m³/hr to 2100 m³/hr**
 - C7
 - C21
 - C27
 - C35
- **Accessories**
 - Stand
 - Flexible pipes
 - Drain pipe
- **Suitable for**
 - Capturing & filtration of **small to medium** amount of mist
- **Applications**
 - Mainly coolant mist filtration suitable for water soluble coolants for VMC, HMC, CNC lathes, etc.
 - Component cleaning machines

How it works

Mist-laden air is sucked in the unit with the help of a high-speed Rotor. Due to centrifugal force, small particles coalesce, forming larger droplets of coolant.

The coolant, thus collected, is forced through drain and recycled back to the CNC machine.

Depending on the criteria such as application, mist concentrations, type of coolant, etc. different combinations of filters are used to ensure the best possible performance.

Benefits

- Compact unit
- Ease of installation
- Ease of operations and maintenance

Centralised Systems for Extraction & Filtration of

- Dry Fumes
- Oil & Coolant Mist



Balanced ducting distribution system in a typical weld shop



Outdoor installation of fume extraction system

Centralised Systems

Electrostatic Filters

Why Centralised System?

- **Saves valuable floorspace** - Individual units occupy more shop-floor space, whereas in a centralised system, the main unit can even be installed outside the factory.
- **Ease of maintenance** - Individual pieces of equipment are difficult to maintain and time-consuming as compared to a centralised system.
- **Technology options** - Choice of ESP as well as cartridge filtration technology.
- **Stable system ensures reliable performance** - Statically and dynamically balanced blowers for efficient, reliable and long-term operation.
- **Flexibility** - Final drops with flexible pipes allow flexibility for small changes in layout.

• Applications

- Auto component welding lines (silencers, chassis, seating systems, etc.)
- CNC machine shops
- Gear shops
- Power train machining lines
- Tools (drills, taps, etc.)
- Manufacturing lines

Benefits

Outdoor Systems

- Save space inside the shop-floor
- Easier maintenance
- Cost of raised platform can be saved

Indoor Systems

- Duct length and cost can be optimised
- Lower pressure drop meaning lower HP

Apart from the range of standard models, Filter-On specialises in offering centralised systems for mid-sized and large factories and continuously operating welding lines.

Customized Systems



Indoor installation
using overhead platform

Centralised oil & coolant mist
collection system at CNC machine shop

Why only Filter-On for a Centralised System?

- **Optimised air flow calculations** - Better suction hood/enclosure designs based on guidelines of **ACGIH** (American Conference of Government & Industrial Hygienists).
- **Ducting design** - Through our unique design, we ensure effective suction at each suction point, resulting in low pressure drop and reduced power consumption. Provision is also made for rebalancing airflow any time with the help of dampers provided at each drop.
- **Choice of filtration technologies** - We offer the option of Electrostatic Filtration or Cartridge Type Filtration. Select the one that suits your organisation's goals the most.
 1. Electrostatic filtration assures zero replacement cost and lowest pressure drop, and thus lowest running costs plus the ability to filter mist droplets.
 2. The Cartridge system is a high efficiency system and has a very low maintenance cost.
- **Fan/Blower selection** -
 1. Statically and dynamically balanced fans, optimised with careful selection of operating point
 2. Optional VFD ensures further power saving.
 3. Fan/blower are selected for optimised performance and require lesser power.
- **Accessories**
Ducting, Canopies, Flexible pipes, Mounting platforms

Standard Products

These equipment are suitable for standalone workstations where a heavy amount of fumes and/or dust is discharged.



Cartridge Dust Collectors



Downdraft Tables

Cartridge Dust Collectors with reverse-jet auto-cleaning system

• Applications

- Welding fumes extraction
- Grinding dust collection
- Plasma cutting fumes extraction
- Melting furnace fumes extraction
- Saw dust collection in woodworking industry

• Features

- Fine dust filtration is possible. We use German cartridges having 99%+ filtration efficiency down to 0.5 micron particles
- Outlet air is clean, filtered and safe to be discharged in the working premises
- Automatic cleaning - No periodic maintenance needed
- Only periodic cleaning of dust collection tray needed
- Cartridge life - 12 to 15 months depending upon applications
- Pressure gauge provided - shows condition of cartridge filters
- Different sizes and configurations available as per application needs

Downdraft Tables

- Integrated dust collection system with worktable
- Best solution for manual grinding/buffing operations
- Self contained system having automatic cleaning arrangement
- Different sizes and configurations available based on different requirements of customers

- Cartridge Dust Collector - DC series models are available from 2000 CMH to any higher air flow capacity
- Downdraft tables are available in three standard models with varied sizes and air flow capacity
- Customised models to suit specific requirements can be offered on demand

Dry Dust Collection & Filtration



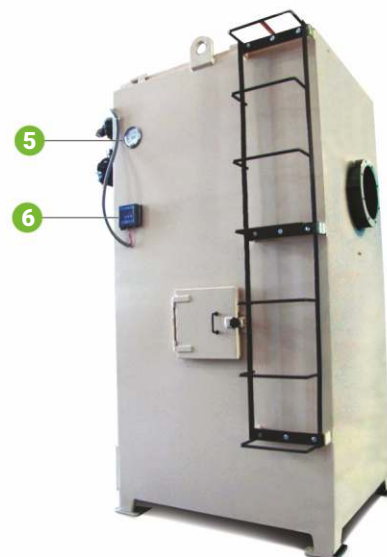
Venturi & nozzle fitment above cartridge for reverse jet cleaning



Internal fitting of cartridges



Downdraft Tables



Cartridge Dust Collectors

- | | | | |
|---------------------------|--------------------------------|------------------|---|
| 1 Blower - motor assembly | 3 Compressed air receiver tank | 5 Pressure gauge | 6 Electronic, adjustable timer for pulse frequency adjustment |
| 2 Solenoid valves | 4 Dust collection tray | | |

Get exactly what you require to restrict your capital expenditure and also have the option to upgrade in the future.

Quick Selection Chart

Oil & Coolant Mist Extraction & Filtration

Models	Standard Units										Customised Systems													
Application	M-02/0.5K	M-02/0.5K Dp	M-02/1K	M-02/1K Dp	M-02/2K	M-02/2K Dp	M-02/4K	M-02/4K Dp	M-02/6K	M-02/6K Dp	8K	8K Dp	12K	12K Dp	16K	16K Dp	20K	20K Dp	24K	24K Dp	28K	28K Dp	32K	32K Dp
CNC Lathes	✓	✓	✓	✓	✓	✓		✓																
Grinding Machines			✓		✓	✓		✓																
Gear Cutting Machines					✓	✓	✓	✓																
Hobbing Machines				✓			✓																	
Nut Formers					✓		✓		✓															
Cold Forging (Fasteners manufacturing)					✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Die Casting Fumes							✓		✓			✓		✓		✓		✓		✓		✓		✓
HMC & VMCs				✓	✓	✓	✓																	
Tool & Cutter Grinders			✓		✓																			
5 Axis Grinding Machines					✓																			
Oil Spraying Booths/ Applications					✓		✓		✓			✓												
Pilger Mills			✓	✓	✓	✓	✓	✓																
Ball Point Tips Making Machines		✓		✓		✓																		
Covering Line of CNC Machines on Shop-floor									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Cartridge Dust Collection & Filtration

Application	DC-2K	DC-4K	DC-6K	DC-8K	DC-10K	DC-12K	DC-16K	DC-20K	DC-24K	DC-28K	DC-32K	DC-40K	DC-50K	DC-60K
Laser Cutting	✓	✓	✓	✓										
Plasma Cutting Machines				✓	✓	✓	✓							
Gauging Applications	✓	✓												
Dry Grinding & Buffing (Manual)	✓	✓	✓	✓										
Grinding (Pedestal type)	✓	✓	✓	✓										
Welding	Individual Stations			Common Centralised System										
Shot Blasting		✓	✓	✓	✓									
Induction Furnace				✓	✓	✓	✓	✓	✓					
Fettling Operations			✓	✓	✓	✓	✓	✓	✓					
Forging		✓	✓	✓	✓	✓	✓							

Electrostatic Air Filtration System for Other Industries

- Most suitable for
- Clean rooms
 - Kitchen exhausts
 - Intake air filtration

Parameters Advantages

Air Filtration Efficiency

- Better than EU9 grade filtration efficiency
- Because of high efficiency even for submicron, fine and suspended particles, ESP becomes most suitable to filter smoke/fumes/fine dust/oil mist, etc. which otherwise become difficult to filter

Pressure Drop Across Filters

- It offers one of the lowest pressure drops. With Pre & Post Filter of wire-mesh type, maximum pressure drop is 8 to 10 mm WG
- Low pressure drop means saving in blower HP
- Ease of retrofitment in existing HVAC system

Virtually Infinite Life

- Construction in aluminium electrode plates
- Washable/cleanable and reusable for a long time
- No cost of replacement of filters
- Saves cost and is environment-friendly



Dry Fumes Extraction & Filtration

Models	Standard Models									Customised Systems							
Application	M-02/300	M-02/300 (HEPA)	M-02/0.5K	M-02/1K	M-02/1200	M-02/1600	M-02/2K	M-02/4K	M-02/6K	8K	12K	16K	18K	20K	24K	28K	32K
Solder Fumes (Manual Soldering)	✓	✓	✓														
Wave Solder Machines			✓	✓			✓										
Solder Fumes	✓	✓	✓														
Induction Heating				✓			✓										
Welding																	
Manual Welding in Booths				✓			✓	✓									
Rework Stations					✓												
Manual Welding (Large jobs with crane movement)					✓	✓											
SPM - Round Welders			✓				✓										
SPMs - DID Stations							✓	✓									
Robotic Welding Cells (Fully enclosed)							✓	✓	✓								
Robotic Welding Cells (Semi enclosed)								✓	✓								
Laser Welding							✓	✓	✓								
Welding Line having Manual/Robotic Stations										✓	✓	✓	✓	✓	✓	✓	✓

Over 3500 installations across India

- Addison & Co.
- Bajaj Auto
- Bhabha Atomic Research Centre
- Birla Precision Technologies
- Bombay Dockyard
- Crompton Greaves
- Cummins India
- Eaton
- Essem Tecnopinz
- Faurecia Automotive Seating
- FIAT India
- Flextronics
- Forbes & Co.
- Hero MotoCorp
- Honeywell
- Indian Railways
- Larsen & Toubro
- Lear Automotive
- Lucas TVS
- Magna Automotive
- Nuclear Fuel Complex (NFC)
- Piaggio Vehicles
- Right Tight Fasteners
- S M Auto
- Schindler
- Siemens
- Sulzer India
- Suzuki Motorcycles
- Tenneco Automotive
- TI Metal Sections
- TM Seating
- YG Cutting Tools
- ZF India

and many more...



*Healthy air.
Healthy profits*



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