Nederman

Welding

Removal of welding fumes and particles

Safe, efficient and profitable

Nederman Welding Solutions

- Improve workplace environment
- Protect your workers health
- Protect equipment and processes
- Reduce production disturbances and improve profit

Welding fumes cause health problems and negatively affect production. The result is reduced capacity, reoccurring disturbances and eventually decreased profit. Not only are welders at risk in unsafe environments, the production equipment, as well as end products, are negatively affected from the lack of adequate safety measures. Automated welding equipment such as robots - and the operators - can be subject to residual welding fumes and also need to be protected. Good safety and health is good business.

International health organizations recognize the importance of preventing health risks associated with fumes and smoke generated during welding processes. In many countries, strict personal exposure regulations and standards such as OSHA PEL or ACGIH TLV are heavily enforced to minimize worker exposure to hazardous metal particulate that can be present in welding fume. Ventilation is a primary solution step to mitigate employee welding fume exposure. Because welding fume is a thermal process, the particulate is suspended in the ambient air. When the fume plume cools, the particulate settles to the work space. It builds up on work stations, infiltrates machinery and electrical cabinets, which can cause additional housekeeping to cleanup the dust. If ignored, it can cause machinery downtime and loss of production.

Major health risks with welding

- Cancer of lungs, bowel, intestines, liver
- Brain damage
- Neurological diseases
- Decreased lung capacity
- Pneumonia
- Asthma
- Skin diseases
- Allergies
- Fertility problems

Safe and efficient welding processes

Control of exposure to welding fumes can usually be achieved with the help of extraction and ventilation. The choice of technique depends on the circumstances. The aim is to capture the welding fumes as close to the source as possible. This protects not only the welder but also other workers and machinery. Nederman systems are designed to extract welding smoke from a number of workstations but also used for cleaning of workplaces and machines. The product range also includes portable weld fume extractors, hose reels for gas and compressed air and cable reels for electric power.

Welding fume extraction at source - the most effective way to extract fumes

Wherever it is a viable solution, it has been proven that extraction at source is the most efficient method of capturing and removing welding and similar fumes. Using this method, the risk of the welder or operator being subject to hazardous fumes is minimized. Welding torches with integrated extraction allow the welder to work over large areas as well as inside partially enclosed spaces. It also reduces heating and cooling costs by reducing the amount of heated / cooled air extracted from the premises.

Robot focus, build-up of fume on critical sensors and lasers

Welding operations using robotic welding equipment require careful monitoring. Optical sensors can become coated with carbon, resulting in improper welds, cold welds, or all together shutdown of the welder. Nederman solutions for automatic and robotic welding process include on-tool/on-torch extraction, hood extraction, and ambient air filtration.

From energy wasting to energy saving

Letting the extraction system run when not in use is a big waste of energy. Not only the fan motor energy, but cost of heating or cooling make-up air to replace the air exhausted outside. With a Nederman fan inverter control system, the air-flow extracted is constantly adjusted to the minimum required, reducing plant operating costs.

For additional savings, easy-to-program timers, machinery use sensors, and automatic dampers (motorized or pneumatic) can be combined at the extraction points to further reduce unneeded air extraction. This improves system efficiency, extends maintenance intervals, and reduces filter cleaning cycles and filter replacements, resulting in lower operating cost and more facility uptime.

Create a fume-free workshop

At Nederman, workers health and safety are our primary concern, as they affect process efficiency, productivity, quality, costs and successful job completion. Our solution starts at the process so we understand the job and worker procedure. After a thorough analysis and interview, we recommend a solution that will best protect the worker while maintaining efficiency, productivity, quality and work zone cleanliness.

Improve your production efficiency, achieve a better working environment and reduce environmental impact.

1 Extraction at-source with arms
A range of arms in different designs and arm lengths, hose diameters etc. Full flexibility in all directions and easy to position.

2 Arm on rail
When extraction from extended working areas is required.

3 Extension arm
When extra reach is needed.

4 Mobile extraction/filtering units
A range of easy to move around mobile filter units solve most demands regarding welding fumes and dust.

5 On-torch extraction
Welding torches with integrated extraction allow the welder to work over big areas as well as inside constructions.

6 Robotic welding
Nederman solutions for automatic welding processes include both on torch-extraction and extraction systems with hoods.

7 On-tool Extraction
Cutting, grinding and sanding are common operations in welding workshops generating dangerous concentrations of dust and particles. On-tool extraction is the most efficient way to capture them. Nederman offers a wide range of on-tool extraction kits for more than 600 tools.

8 Stationary vacuum/ filtering systems
Nederman solutions include central vacuum systems with fans, filters and duct system to extract welding smoke from a number of workstations via extraction arms or from welding torches. The systems are also used for extraction of particles from grinding, sanding etc., and for cleaning of workplaces, premises and machines.

9 Mobile vacuum units
For cleaning, collection of scale rags etc. Air or electrically powered.

10 Cable and Hose Reels
For convenient supply of gases, compressed air, water and electric power. Hoses and cables are out of the way when not in use which improves safety.

11 Energy Saving System
With Nederman fan control units, motor dampers and fan inverters promote substantial energy and operational cost savings.

12 Ambient Room Cleaning
When source capture is not possible, ambient room cleaning can be used to reduce concentration of welding fumes in the air.

Complete solutions that protect your environment

Comprehensive product range

Nederman is a world-leading environmental technology company with solutions that take their origin in "capture-at-source", i.e. extraction of contaminants right at the point of creation. We filter, clean and recycle to create eco-efficient production in demanding industrial surroundings. Our offer includes individual products, engineering design, installation, commissioning and service. By continually adding new skills and solutions and expanding our geographic presence, we help our customers to develop their businesses both economically and ecologically.

Humans breathe nearly 100 liters of air per minute. When exercising or working hard we almost double that. It is safe to say that clean air is vital to us and should be a basic Human Right.

Extensive experience

For more than 70 years, Nederman has developed products and solutions to reduce the strain on the environment and protect people from harmful particles, fibers, dust, gas, smoke and oil mist. We have extensive experience of how to create a safe working environment. Our accumulated know-how is easily accessible when you plan a new facility or need to modernize existing operations.

Worldwide presence

Nederman has a strong global presence in both sales and production. We have our own sales companies in 25 countries and distributors in more than 30 countries. Production is performed in 12 countries on five continents. In many countries, we also have a well-established service organization. By offering advanced service with high availability, Nederman helps customers to secure continuous, optimized production.

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For more than 70 years, Nederman has developed, manufactured and installed products and solutions to reduce the strain on the environment and improve working conditions in numerous industries.

Our products and systems have been ground-breaking in industries such as machining, metal fabrication, mining, automotive, composite manufacturing, food, pharmaceuticals, woodworking and many others.