



**INDUSTRIAL VACUUM SOLUTIONS**  
**FOR FOUNDRIES**



# COMMON PROBLEMS IN **FOUNDRIES**

Foundries face major dust problems within their production process. Proper workplace cleaning is of paramount importance as it improves productivity, efficiency and safety of the entire working environment by eliminating common problems such as:



- ➔ Product spills and material losses
- ➔ Time and costs required for maintenance of installations
- ➔ Health risks for operators and possibility of accidents
- ➔ Unexpected production stops
- ➔ Reduced finished product quality and high remelting costs

The production process within the foundries comprises several steps, starting with the initial casting and ending with a high-quality finished product.



# DHV DELFIN SPECIFIC SOLUTIONS





The DHV product range is designed to meet any difficult challenge. The range meets the needs of heavy industries in tackling the problem of large amounts of dust, spillages and residues, which constantly undermine their production efficiency.

Material recovery and raw material savings 

Reduced maintenance costs and time 

Healthier and safer working environment 

Reduction of downtime 

Unaltered finished product quality 

**FILLING THE CRUCIBLES**

**PREPARING THE MOULDS**

**MOULD BREAKING**

**SANDBLASTING**

**REFINISH**





## Problems



### FILLING THE CRUCIBLES

After the first phase of metal casting, crucibles are filled and subsequently moved.

Used to contain metal castings, crucibles need to be thoroughly cleaned to remove residues and slag that can compromise the quality of the next casting.

The materials inside the crucibles reach very high temperatures with peaks of 400°.



### PREPARING THE MOULDS

During the preparation of molds for metal casting, small powder residues can form inside the prints.

These residues can affect the quality of the final product.



### MOULD BREAKAGE

The breaking of the molds, also known as destaffing, whether manual or mechanized, can take place on the floor or on an automatic belt (in the case of a mechanized system).

All this leads to a great dispersion of dust, which spills out in different parts of the department.

Often the destaffing phase takes place in dedicated booths that discharge the soils onto a conveyor belt placed in a tunnel several meters deep.



## HIGH TEMPERATURE SOLUTIONS

The DHV range of vacuum cleaners meets all requirements.

For work in contact with incandescent dust and materials at very high temperatures, they are equipped with special filters, special separators, and special collection accessories allowing safe and efficient suction of materials without generating any problems



## SAFE DUST REMOVAL

A vacuum system (mobile or centralized) combined with the right accessories, allows the mould to be cleaned of any residue that could undermine successful processing.

Thanks to the cleaning system, some customers have estimated a 30% reduction in waste and a considerable saving in materials, time, and energy.



## CLEAN-UP AND RECOVERY OF SAND

The solution to this problem is to suck up the foundry sands on the ground or under the belts with a vacuum cleaner from the DHV line, and then feed them back into the process, discharging them into the elevator which takes them back to the silos where they are regenerated.

In the case of underground tunnels, given the limited space available, a centralized cleaning system is required to easily recover spillages and leaks.







## Problems

### SANDBLASTING

The sandblasting process allows the raw part coming out of the moulds to become a clean and polished part.

This process takes place in sandblasting cabins of varying sizes depending on the volume of the parts to be treated. Sandblasting is carried out using small abrasive materia

### CUTTING AND REFINING

The final machining of the parts is carried out using numerically controlled machines, commonly called CNC machines.

With a large number of CNC machines, large amounts of swarf are created during cutting and finishing, making it impractical to dispose of and clean swarf from each individual machine, and also interrupting production cycles.

### DEVELOPMENT AND SUPPORT



By choosing a Delfin vacuum solution you will have a dedicated team, consisting of a technical department and representatives from the High Vacuum department, who will follow you through all the stages of the process, from analysis to design, installation, and service, guaranteeing maximum customization of the system.



## EFFICIENT SOLUTIONS

Removing sand or other abrasive materials from inside the cabins and workpieces without a suitable vacuum cleaner becomes a complex job. On large booths, a centralized system is installed with a number of vacuum cleaners near the booth. As abrasive material is very expensive, a screening process is required to remove the waste and the spent abrasive in order to reuse it. Delfin provides a complete vacuum solution that can solve any problem.



## CONTINUOUS ASPIRATION

The automatic suction system of the DHV range takes the swarf from each machine continuously and transfers it to a single collection point for unloading into skips or trucks, reducing the time needed for manual removal. If the swarf is long, it is first chopped with special machines.



## CUSTOMISED SOLUTIONS

### Dedicated R&D

With 20 in-house engineers, our technical department dedicated to the development and creation of DHV projects is able to provide customisations tailored to specific customer needs.





# THE COMPANY



Delfin was founded over 25 years ago as a result of the passion of its founder, Antonino Siclari, for industrial vacuum cleaners.

Delfin has never stopped working to offer its customers innovative and efficient solutions at the top of quality and design, solving cleaning problems for professionals and industries all over the world.

## WHY THE **DHV** LINE?

The industrial vacuum cleaners in the DHV series are designed for heavy-duty, continuous applications. High power, high performance, long distances. The range was created to solve the suction problems in industries that have to deal with large quantities of dust, spillages, and residues that constantly undermine production efficiency and the safety of working environments.



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