

CASE STUDY

**ENGINEERED SOLUTION FOR
HEAVY WELDING WORKSHOP**



THE CHALLENGE

Heatric, Poole (UK) has a 2,000 m² workshop. In this plant 80 welders work on site on a daily basis. The main welding applications are: MIG, TIG and submerged arc welding (also known as SAW welding).

Welding fumes were only extracted via the ordinary ventilation system. However, general ventilation alone is not good enough to create a proper working environment. Therefore, Heatric needed a high-quality extraction system to remove these welding fumes. Not only to be code compliant, but also to offer their employees a safe and healthy working environment.

The particulate fume was in excess of 5 mg/m³. The target set for Plymovent was to achieve a reduction to 0.5 mg/m³ of welding particulate fume. A challenge indeed!

Heatric, a division of Meggitt Ltd., is the market leading supplier of highly compact diffusion-bonded heat exchangers. Meggitt Ltd. is a multinational group with a broad presence in the aerospace, defence and electronic sensor markets. In 1990 Heatric relocated from Australia to Poole in the UK where it now employs more than 200 people.

www.heatric.com



» The Push-Pull systems led to a massive improvement in air quality, both visible and calculated, leading to a cleaner and safer working environment. «

QUOTE BY Mark Bradbury, Health and Safety Manager of Heatric.

TESTIMONIAL

“We are very pleased with the engineered solution supplied by Plymovent. Unbelievable that they managed to reduce the welding particulate fume to 0.2 mg/m³.”

“So, as from now we are extremely code compliant! Besides, our employees notice the difference and are very happy with the various Plymovent extraction system solutions. Welding fumes do not even get a chance to accumulate inside the workshop.”

“In the areas beyond the Push-Pull systems we use Plymovent mobile units which effectively capture and filter the welding fumes at source.”

THE SOLUTION

It was obvious that too many welding fumes stayed inside the workshop and were not channelled to the outside via the existing ventilation system.

As Heatric uses various welding applications, at various places in the workshop, Plymovent opted for an engineered solution. Extracting welding fumes at the source is always the most effective method. Where possible, mobile units were placed. However, at some workplaces source extraction was not an option as not all welders are working at fixed workplaces.

For the large welding areas a Push-Pull system was installed. This ventilation and filtration system contains ductwork running down both sides of the building and also along the central span at around a height of 5 metres. Because of their temperature, welding fumes rise above the workplace and in this case are captured and filtered by the Plymovent Push-Pull system.

One side pushes the welding fumes towards the pull side. Here they are captured and then filtered before being re-circulated again through the push side. So besides clean air, Heatric also bought an environmental-friendly solution as expensively heated air stays inside the workshop. The last indoor air quality monitoring showed 0.2 mg/m³.



MAIN BENEFITS

- Cleaner work environment
- Safer work environment
- Improved indoor air quality
- Code compliant
- Better work moral of employees
- Less exposure to welding fumes, thus less absence due to illness

SYSTEM FACTS

Products

- Push-Pull system, including 7 x SCS central filter systems
- 20 x MultiFumeCaddy, mobile filter units

Applications

- MIG welding
 - TIG welding
 - SAW¹ welding
- ¹ Submerged Arc Welding.

Service and maintenance

- 6 monthly servicing:
 - check filter readings
 - empty bins

Year of installation

- June 2009



UK-03

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clean air at work

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