

MOBILE EXTRACTION UNITS FOR PROFESSIONAL WELDERS: 8 CRITERIA THAT DEFINE GOOD ENTRY-LEVEL MODELS

Posted on July 3, 2020 by Andreas Effing



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They are mobile and can therefore be used at changing workstations. Equipped with extraction arm and extraction hood, they are often used for welding fume extraction. Not only do mobile extraction units provide effective protection against welding fumes, they also give welders an extremely high degree of flexibility in using protective welding equipment at different welding stations.

But investment in modern extraction technology requires careful consideration. Therefore, for many metal processing companies the price level is also important when purchasing. When looking at available solutions, it is noticeable that: while the prices of common extraction units are similar, buyers need to take a closer look at the equipment features. Despite the comparable price level – entry-level units are available from around €2,250 (net) – some of them differ greatly, even in their basic equipment. Welders should therefore pay particular attention to the following eight criteria:

1. The filter capacity is decisive for mobile entry-level units

The filter capacity plays a crucial role in the performance of a mobile extraction unit. While some filter media in entry-level models have a surface area of just over 10 square metres, other units can extract hazardous substances over an area of 25 square metres even in the basic version – and all this at a comparable entry-level price and with a similar sized filter unit. Mobile extraction units, such as the [SmartFil from KEMPER](#), sometimes have a filter surface twice as large as other entry-level units.

2. Prolonged service life due to larger filter capacity

Not only is the added value of material significant for the optimum condition of a mobile extraction unit. The capacity is decisive for the service life of the filter. A filter capacity that is twice as large is equivalent to a doubling of the filter service life. For example, welders should consider the follow-up costs for a filter change when purchasing a new mobile extraction unit. Investment in a mobile extraction unit with a large storage filter pays off many times over.



3. Filter efficiency provides information about the filter quality

Mobile extraction units are generally equipped with so-called HEPA filters that are suitable for the cleaning of welding fume particles. Welders should make sure that they have at least class E12. Mobile entry-level units differ in peak filter efficiencies. In the optimum case, they separate at least 99.5 percent of the alveolar welding fume particles.

4. The right extraction hood for a higher collection efficiency

In addition to the filter efficiency, the collection efficiency is also important for the effectiveness, i.e. the extent of welding fumes that reach the filter unit in the first place. This is mainly due to the behaviour of the welders when using the extraction hood and arm, as they have to track the extraction elements. The extraction elements themselves, however, are optimally designed to ensure that welders do not need to adjust them as often. For this reason, flange-shaped – and, hence, flow-oriented – extraction hoods that are aligned with the welding seam are preferable to conventional extraction hoods. In some cases, they achieve 40 percent higher collection rates than funnel-shaped hoods.

5. The quality of the extraction arm also counts

Actually, that sounds obvious. The extraction arm must also make work easier. Welders should therefore pay attention to the quality of the arm when purchasing a mobile extraction unit. The most important criteria:

- Optimum extraction arms should be easily adjustable with one hand only during the welding process.
- They should be self-supporting in the air – in the same place where the welder has positioned them.
- They should be flexibly rotatable 360 degrees around their own axis.

By the way, extraction arms are also partly responsible for the range a mobile extraction unit can reach from one location. For this reason, it should be possible to integrate different lengths. Usually, two metre long extraction arms are typical.

6. Safe change filter for even greater occupational safety



Mobile extraction units not only ensure the highest level of occupational health and safety with optimised extraction elements and filter media, but also through contamination-free filter changes. Systems have been established for this purpose, which collect welding fume particles in a safely sealed cartridge. As part of the housing, they can be detached and replaced without having to open the unit and allowing the hazardous substances to escape again.

7. Thinking about the future today: upgrading mobile extraction units

What good is an entry-level model that protects welders in many applications as the welder continues to develop? Does a new mobile extraction unit then have to be purchased directly to cover further areas of application? No! Because new models like the SmartFil from KEMPER can already be further upgraded. It is already possible to increase the filter capacity by integrating a high-end filter of 42 square metres. In addition, larger extraction elements with greater extraction arm diameters of 180 millimetres – 150 millimetres are standard – can also be integrated.

Larger extraction hoods – also with musical accompaniment, by the way – also enable higher collection levels. Beyond that, it should also be possible to equip mobile extraction units with LED light sources in the extraction hood outside the volume flow. Particularly for continuous welding, an automatic start-stop system also helps in working energy efficiently. In addition, possible filter monitoring ensures uninterrupted operation.

8. Attractive design that makes you want to use it

It sounds trivial and yet it's extremely important for the motivation of welders. Design plays a major role in ensuring that they use mobile extraction units in the first place. Firstly, the units should be designed to be as compact as possible. This is a basic prerequisite for ensuring that they do not get in the way, even in confined spaces. Secondly, a fresh design makes you want to use it. Until now, square shapes have been more common in the entry-level segment of industrial extraction units. New models with a rounded shape bring a new design standard into production halls, even in the entry-level class.

