KEMPER

WELDING FUME EXTRACTION

Application & Duty Selector

Match the capture method to the job, then size the extractor for how much welding you do.



Start With the Welding Job

Welding task	Start here	Page
Short TIG work · fixed bench	Close capture arm, backdraft or extracted bench. Check ozone control when assessing exposure.	02
Occasional repair · MIG or MMA	Repositionable source-capture arm. Start with SmartMaster or ProfiMaster where capture can be maintained.	02
Daily MIG/MAG on long seams	Compatible on-torch capture follows the weld. Use a movable hood where it can remain close throughout.	03
Sustained FCAW, MMA or hardfacing	Cleanable arm or engineered hood sized for the fume load. Start with FilterMaster XL or MaxiFil Clean.	02
Stainless, coated or unusual material	Select through a substance-specific assessment. Check capture, discharge, filtration and whether RPE is required.	04
Robot cell or several active bays	Engineered enclosure or ducted LEV. Select ArcFil, WeldFil or VacuFil plant around simultaneous demand.	04

Choose the Capture Method

Arm or Hood 02

Can the hood stay close to the joint throughout the weld?

On-Torch 03

Does the weld travel beyond the hood's reach? Use a compatible extraction gun.

Engineered System 04

Several active bays or an automated cell? Size the capture points and plant together.

Filter life and loading Bench-test comparison on page 05 · model-by-model filter reference on page 06

R H Davey Welding Supplies Ltd · 023 8033 9443 · sales@rhdaveywelding.co.uk
67–69 Quayside Road, Southampton SO18 1AE

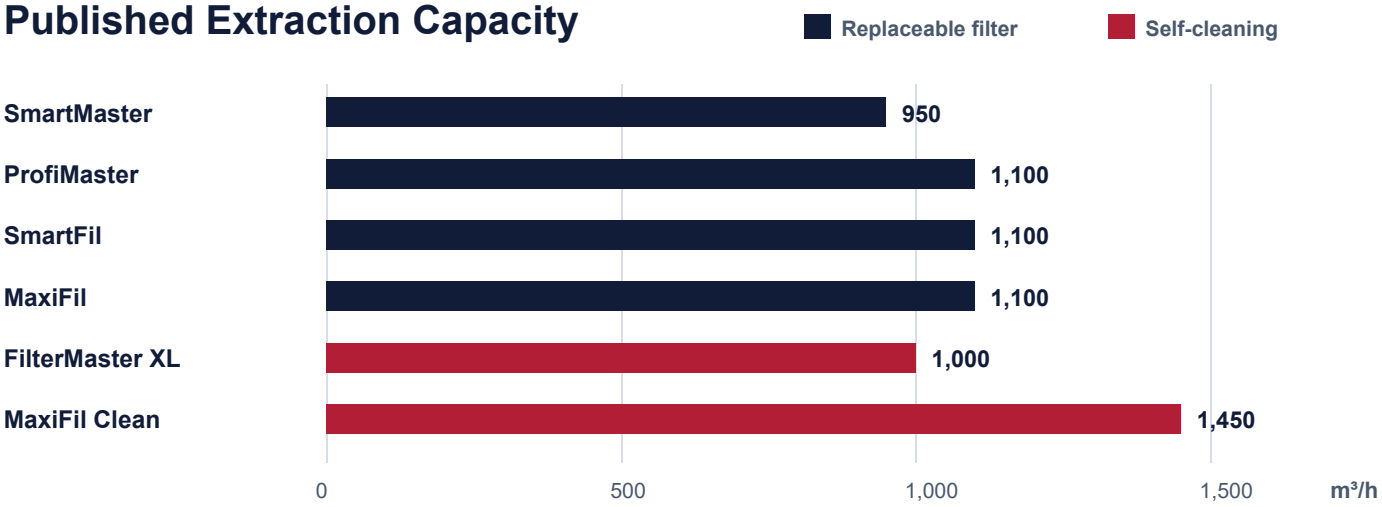
© R H Davey Welding Supplies Ltd · Design and editorial content

OCCASIONAL TO CONTINUOUS

Mobile Extraction Arms

The ranking follows KEMPER's published mobile-unit application guidance. SmartFil and MaxiFil serve a similar duty band.

Published Extraction Capacity



Figures are for the configurations shown below. Duty ranking also takes account of arc time, fume loading and filter cleaning.

Duty	Model	KEMPER ref.	Filter	Choose for
01	SmartMaster	64300	13m² · replaceable	Occasional short runs and repairs with low fume loading.
02	ProfiMaster	60650104	17m² · replaceable	Occasional to frequent work with low to medium loading. Available in one- and two-arm versions.
03	SmartFil	64650100	25m² · replaceable	Regular welding with moderate loading where a compact floor unit suits.
03	MaxiFil	65653100	42m² · replaceable	Regular work with moderate loading and a larger filter. Check filter options, including MaxiFil AC.
04	FilterMaster XL	62100102	10m² · self-cleaning	Sustained, dustier work where cartridge cleaning reduces filter-change interruptions.
05	MaxiFil Clean	67250105	15m² · self-cleaning	Continuous work with high fume loading. Automatic cleaning and enclosed dust collection.

When to Move Up a Duty Band

Move to cleanable filtration when heavier loading or longer arc time makes disposable filters impractical. Check arm reach and supply voltage for the exact configuration.

KEMPER mobile extraction range

© R H Davey Welding Supplies Ltd · Design and editorial content

CHOOSE BY ACCESS

On-Torch & Fixed Capture

Use on-torch capture for compatible welding guns. Use a fixed hood or arm where the work can consistently stay within its capture zone.



Dusty Evo



VacuFil Compact Twin



MaxiFil Stationary

On-Torch & Small Nozzles

Model	KEMPER ref.	Best fit
Dusty Evo	63202	Mobile nozzle or compatible on-torch capture for intermittent work.
VacuFil Compact	82361	One compatible extraction torch, typically for regular manual welding.
VacuFil Compact Twin	82380	Two connections for sustained work. Airflow is quoted for the unit as a whole.
VacuFil 500	82755	Shared high-vacuum capture for several torches. Size for simultaneous use.
VacuFil 2000 / 4000	82820 / 82840	Central multi-station systems. Select on the installed system duty point.

Fixed Bay & Machine Capture

Model	KEMPER ref.	Best fit
MaxiFil Stationary	65850107	Fixed arm and high-capacity replaceable filter for a regular single bay.
Cartridge Filter Unit	83100106 / 83200106	Cleanable filter for one or two permanent arms.
WallMaster	65750	Modular wall filter. Specify fan, arm and duct arrangement as a package.
FilterCell XL	6020204	Cleanable unit for a fitted hood, table or robot capture point.

For on-torch selection, use the torch maker's required flow and pressure. Check hose length, restrictions and shielding gas stability during commissioning.

VacuFil Airflow at 18kPa



© R H Davey Welding Supplies Ltd · Design and editorial content

HEAVY PRODUCTION

Engineered Extraction

For several bays or automated cells, size the capture points, ductwork and filter plant as one system.



WeldFil



ArcFil Pro



PlasmaFil Pro

System	Example manufacturer refs.	Choose for
WeldFil Compact / WeldFil	3475 / 34270	Fixed manual bays. Compact plant for smaller systems, WeldFil for larger engineered networks.
ArcFil / ArcFil Pro	20531 / 3565	Dedicated extraction for robotic welding cells. Size to enclosure and duty.
PlasmaFil / PlasmaFil Pro	22230 / 3250112	Plasma or flame cutting. Combine with a matched cutting-table extraction design.
LaserFil / LaserFil Pro	27760 / 3720	Laser cutting. Specify fume load, table zoning and material.

Room Ventilation and Source Capture

CleanAirTower and similar hall systems can supplement source capture. For indoor welding, HSE calls for extraction at source. If LEV cannot adequately control exposure, provide suitable RPE.

What to Include in Your Enquiry

Give the welding process, base material and coatings, typical arc time, workpiece dimensions and number of simultaneous operators. Include site power, bay layout, duct routes and possible discharge points.

Have the system designed and commissioned for the job. Specify suitable RPE for outdoor welding in line with HSE guidance.

HSE welding fume controls **KEMPER engineering catalogue**

© R H Davey Welding Supplies Ltd · Design and editorial content

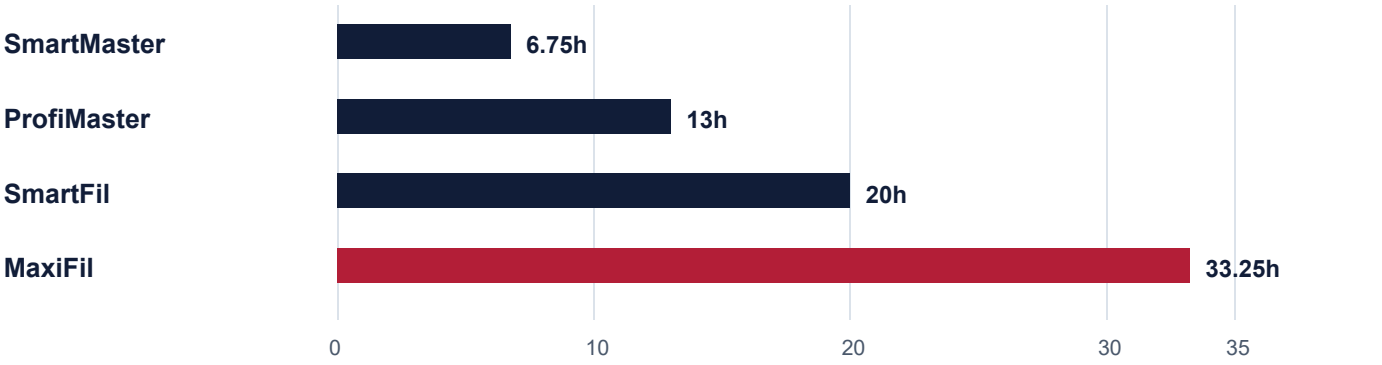
MEASURED ARC TIME

Compare Filter Life

KEMPER tested four mobile extractors with standard replaceable filters under the same automated welding conditions.

Arc Time to Filter Change

Bench test · hours



Model	KEMPER ref.	Filter area	Arc time	Wire used
SmartMaster	64300	13m²	6.75h	40.7kg
ProfiMaster	60650104	17m²	13h	86kg
SmartFil	64650100	25m²	20h	114kg
MaxiFil	65653100	42m²	33.25h	218kg

Automated test at 312A and 30.3V with 1.2mm wire fed at 11m/min. “Wire used” is consumable throughput during the test. Arc time counts only while welding.

Plan Changes Around Your Work

The figures compare the tested filters under one set of conditions. Actual service life varies with the process, arc time, consumable, coatings and how much fume is captured. Follow the unit’s change indication or inspection criteria.

How to Read Filter Loading

Filter area is the surface available to collect particles. A dust container figure is the bin volume. Neither gives a replacement interval or a measured mass of fume the filter can hold.

KEMPER comparative test (catalogue p. 18)

© R H Davey Welding Supplies Ltd · Design and editorial content

MODEL-BY-MODEL DATA

Filter & Dust Capacity

KEMPER gives filter surface area and cleaning method for these configurations. A fixed filter-life figure is unavailable for the models below.

Model	KEMPER ref.	Filter area*	Filter care	Dust bin*
FilterMaster XL	62100102	10m²	Automatic cleaning	—
MaxiFil Clean	67250105	15m²	Automatic cleaning	—
ProfiMaster · 2 arms	60650DA100	17m²	Replaceable	—
MaxiFil AK	65650AK102	34m²	Replaceable + carbon	—
Dusty Evo	63202	1.35m²	Manual cleaning	6L
VacuFil Compact	82361	7m²	Replaceable	—
VacuFil Compact Twin	82380	7m²	Automatic cleaning	—
VacuFil 500	82755	10m²	Automatic cleaning	40L
VacuFil 2000	82820	40m²	Automatic cleaning	—
VacuFil 4000	82840	60m²	Automatic cleaning	—
MaxiFil Stationary	65850107	42m²	Replaceable	—
Cartridge Unit · 1 arm	83100106	8m²	Automatic cleaning	11L
Cartridge Unit · 2 arms	83200106	8m²	Automatic cleaning	11L
WallMaster	65750	42m²	Replaceable	—
FilterCell XL	6020204	10m²	Automatic cleaning	—
WeldFil Compact	3475	100m²	Automatic cleaning	68L
WeldFil	34270	360m²	Automatic cleaning	384L
ArcFil	20531	45m²	Automatic cleaning	70L
ArcFil Pro	3565	90m²	Automatic cleaning	192L
PlasmaFil	22230	60m²	Automatic cleaning	70L
PlasmaFil Pro	3250112	120m²	Automatic cleaning	192L
LaserFil	27760	120m²	Automatic cleaning	70L
LaserFil Pro	3720	40m²	Automatic cleaning	34L

* Total media area where multiple filters are fitted. A dash means KEMPER gives no figure for the cited reference. Follow the manual for cleaning, emptying and replacement. Replace cleanable media when cleaning can no longer restore adequate extraction, as specified by the manufacturer.

KEMPER operating manuals

© R H Davey Welding Supplies Ltd · Design and editorial content