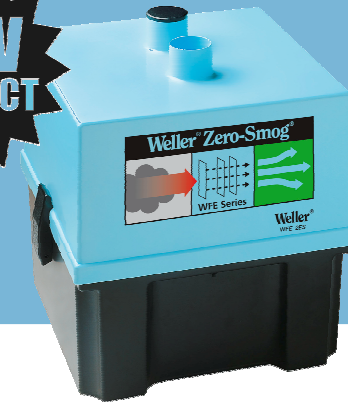COOPER Hand Tools

New in 2007
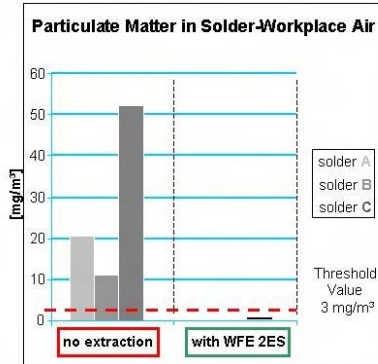
Weller Volume Extraction System

WFE2ES

Weller Info No. 2

New for 2007: Weller Volume Fume Extraction System WFE2ES

Our testing conclusively proves that soldering with lead-free alloys creates a level of breathable air-born pollutants which exceeds the safety threshold set by OSHA (see diagram). This is a viable solution for use in applications where volume extraction is the most suitable option e.g. solder baths, hot air soldering, micro soldering and adhesive applications.

Key features of the WFE 2ES:

- The WFE 2ES guarantees a **filtration efficiency of 99.5%**. The **compact filter system** housed inside consists of an F5-class fine dust filter and a Puratex compact H12 Filter (with active carbon section) ensuring an efficient and reliable extraction function.
- The **powerful brushless and maintenance free turbine** (1800 Pascal) extracts at a volume capacity of 220m³/h resulting in fast and effective removal of pollutants from the air.
- The increased levels of air-born pollutants produced at the work place by lead free soldering are safely and easily removed by the WFE 2ES.
- **Low noise emission**: less than 55 dBA.
- Our **wide range of accessories** provides users with a high degree of operational flexibility. There is **no need for specialized on-site installation**. And the investment makes the WFE 2ES a highly efficient and cost-effective fume extraction system for up to two work places.

The WFE 2ES improves the soldering process by capturing the particles and pollutants produced and providing the operator with a comfortable, clean and safe working environment.

Available August 2007.

Results of Measurements

Particulate Matter in Solder-Workplace Air

solder A
solder B
solder C

Threshold Value 3 mg/m³

no extraction   with WFE 2ES

Exceeding of Threshold without Fume Extraction

Lead-free

A Sn99,3 Cu0,7 Flm2,5%
B Sn99,3 Cu0,7 Flm2,2%
C Sn99,3 Cu0,7 Flm3,5%

Technical Data WFE 2ES

Voltage	115 / 120 VAC - 50 / 60 Hz
Dimensions in mm	320 x 320 x 395 mm (L x W x H)
	12.6 x 12.6 x 15.6 in.
Electrical Power	115 VA
Noise level	52 db (A) at 1 m distance
Max. pressure	1800 Pa (0.26 psi)
Max. airflow	220 m^3/h
Max. capacity	2 work places
Filter	Fine dust filter F5 (no. 0058735884)
	HEPA filter H12 (no. 0058762701)
	(99.5% extraction of particles > 0.66 µm)
	plus carbon filter
	(active carbonate foam)

WFE 2ES KIT 115V (Order No. WFE2ESKIT) consists of:

WFE2ES	WFE 2ES 115V fume extraction unit
005 36 372 99	WFAF 50 extraction arm, 1 m length
005 87 353 27	Extraction hose, 50 mm dia., 3 m length
005 36 379 99	WFTB 50 bench mounting bracket with damper for extraction arm
005 36 371 99	WFFMP 50 adapter
005 87 358 79	hose clamp 50 – 70 mm (2 pcs.)

WFE2ES (Order No. WFE2ES) consists of:

Photo:	Cat. No.	Order No.	Description	Function
	WFE2ES	WFE2ES	115 / 120 VAC fume extraction base unit, includes 3 m (10 foot) extraction hose	99.5% filtration efficiency of soldering, flux, adhesive, and solvent fumes
	0053650681	0053650681	Accessory kit containing accessories necessary for **one operator**	Contains all of the accessories needed for the setup of one operator

Accessory Kit Contents (0053650681):				
Photo:	**Cat. No.**	**Order No.**	**Description**	**Function**
	0058735925	0058735925	50 mm (2 in.) extraction hose, 3 meters (10 feet) in length	Connects to one of the two exhaust ports in the WFE2ES base unit.
	WFFMP50	0053637199	System seal	For connecting the 50 mm (2 in.) extraction hose (TBD) to the WFAF50 flexible extraction arm (0053637299). The damper mounts directly into a 58 mm (2.25 in.) hole in the bench top. When the WFAF50 extraction arm is removed from the system seal, a spring-hinged door seals off the system.
	WFTB50	0053637999	Bench mounting bracket or WFFMP50 system seal	Use this bracket to mount the WFFMP50 system seal to the side of the bench if your benchtop does not have hole.

Photo:	Cat. No.	Order No.	Description	Function
	WFAF50	0053637299	Extraction Arm, 50 mm (2 in.), 100 mm (4 in.) funnel, 100 cm (39.4 in.) length, ESD safe	Connects to the WFE2ES fume extraction base unit through the WFFMP50 system seal. Position the nozzle over your soldering work area for efficient fume removal
	0058735879	0058735879	50 – 70 mm (2 – 2.75 in.) hose clamps, qty. 2	For securing the 50 mm (2 in.) extraction hose to the WFE2ES base unit on one end and the WFFMP50 system seal on the other end

Additional accessories available for the WFE2ES:

Extraction Arms

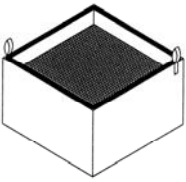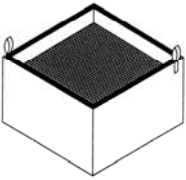| Photo:	Cat. No.	Order No.	Description	Function
	WFAF50	0053637299	Extraction Arm, 50 mm (2 in.), 100 mm (4 in.) funnel, 100 cm (39.4 in.) length, ESD safe	Connects to the WFE2ES fume extraction base unit through the WFFMP50 system seal. Position the nozzle over your soldering work area for efficient fume removal.
	WFAS50	0053637399	Extraction Arm, 50 mm (2 in.) tube, 210 (8.3 in.) x 20 mm (0.75 in.) flat nozzle, 100 cm (39.4 in.) length, ESD safe	Connects to the WFE2ES fume extraction base unit through the WFFMP50 system seal. Position the nozzle over your soldering work area for efficient fume removal
	WFAN50	0053637499	Extraction Arm, 50 mm tube (2 in.), 50 mm (2 in.) round nozzle, 100 cm (4 in.) length, ESD safe	Connects to the WFE2ES fume extraction base unit through the WFFMP50 system seal. Position the nozzle over your soldering area.

Photo:	Cat. No.	Order No.	Description	Function
	0058735849	0058735849	Extraction Arm, 50 mm (2 in.) tube, articulated joint and airflow control valve, bench clamp. ESD safe.	Connects to the WFE2ES fume extraction base unit through the WFFMP50 system seal. Position the nozzle over your soldering work area for efficient fume removal.

Exhaust Hoods and Tables

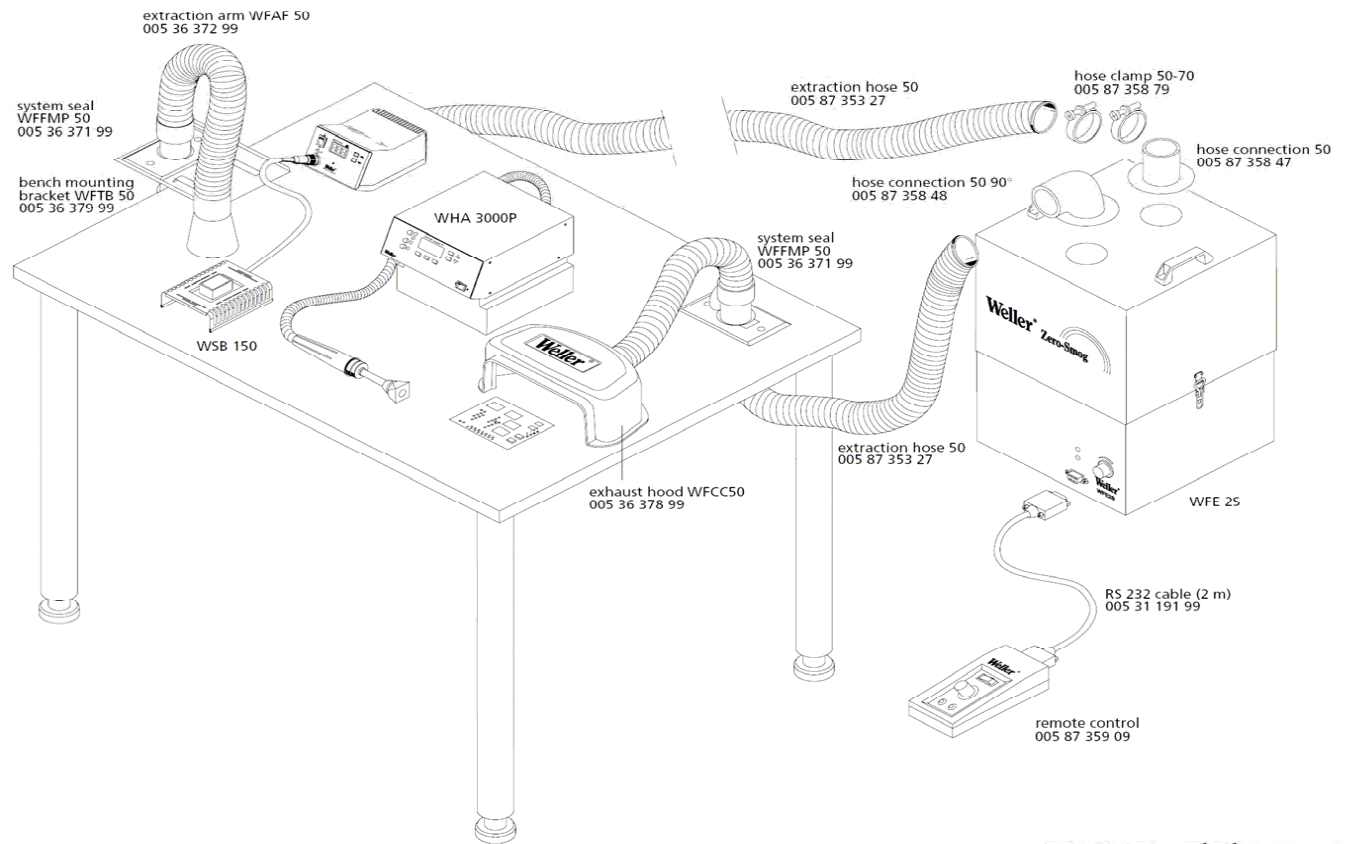| Photo:	Cat. No.	Order No.	Description	Function
	WFCC50	0053637899	Exhaust Hood, 240 x 100 mm (9.5 x 4 in.), flexible 1 meter (39.4 in.) hose, ESD safe	Connects to the WFE2ES fume extraction base unit through the WFFMP50 system seal. Position the hood behind the soldering work area for efficient fume removal.
	WFDD50	0053638099	Extraction Plate, 300 x 210 mm (12 x 8.3 in.), flexible 1 meter (39.4 in.) hose, ESD safe	Connects to the WFE2ES fume extraction base unit through the WFFMP50 system seal. For adhesive and solvent fume removal. Just position your work over the fume extraction grid.
	0058735845	0058735845	Metal Exhaust Hood, 200 x 100 mm (8 x 4 in.)	Connects to the WFE2ES fume extraction base unit through the WFFMP50 system seal. Recommended for use with hot air systems such as WHA3000P.

Replacement Filters

The filters in the WFE2ES must be changed regularly to maintain peak performance. Failure to change the filters regularly may cause **severe** damage to the base unit and void the warranty.

Photo:	Cat. No.	Order No.	Description	Function
	0058735884 (comes with WFE2ES)	0058735884	F5 Fine Dust Filter, 10 Per Pack	The F5 grade pre-filter will remove 40% – 60% of particles up to 100μm.

Photo:	Cat. No.	Order No.	Description	Function
	0058735885 (upgrade from standard F5 filter)	0058735885	F7 Fine Dust Filter, 10 Per Pack	The F5 grade pre-filter will remove 80% – 90% of particles up to 10μm.
	0058762701 (comes with WFE2ES)	0058762701	Filter cartridge consisting of an H12 HEPA filter plus a wide band gas filter	The H12 grade HEPA filter will remove 99.5% of particles up to 0.66 μm. The activated carbon filter element is for odor control. The filter consists of 50% active carbon and 50% Puratex. Puratex is a chemical filtration agent that that removes trace amounts of molecular contaminants, such as acids and alkalis.
	0058735883 (upgrade from standard H12 filter)	0058735883	Filter cartridge consisting of an H13 HEPA filter plus a wide band gas filter	The H13 grade HEPA filter will remove 99.95% of particles up to 0.50 μm. The activated carbon filter element is for odor control. The filter consists of 50% active carbon and 50% Puratex. Puratex is a chemical filtration agent that that removes trace amounts of molecular contaminants, such as acids and alkalis.

See the next page for a System Map.

Weller Ambient Fume Extraction System Map

extraction arm WFAF 50
005 36 372 99

extraction hose 50
005 87 353 27

hose clamp 50-70
005 87 358 79

system seal
WFFMP 50
005 36 371 99

hose connection 50
005 87 358 47

bench mounting
bracket WFTB 50
005 36 379 99

hose connection 50 90°
005 87 358 48

WHA 3000P

system seal
WFFMP 50
005 36 371 99

Weller Zero-Smog

WSB 150

exhaust hood WFCC50
005 36 378 99

extraction hose 50
005 87 353 27

WFE 2S

RS 232 cable (2 m)
005 31 191 99

remote control
005 87 359 09

COOPER Hand Tools

Weller®

Competitive Comparison

Brand	Weller®	OKi	OKi	HAKKO	PACE	EDSYN	EDSYN
Model	WFE2ES	BVX-100	BVX-200	HJ3100	ARM-EVAC 50 E	FX 225	FX 300
Dimensions	13.25 x 14.5 x 16.25 in (337 x 368 x 413 mm)	11.75 x 9.0 x 11.5 in. (300 x 230 x 290 mm)	20 x 10 x 15.25 in. (508 x 254 x 388 mm)	11 x 9 x 18 in. (280 x 228 x 457)	8.5 x 13 x 12.5 in. (215 x 330 x 315)	10 x 10 x 17 in. (254 x 254 x 432 mm)	13 x 12 x 17 in. (330 x 300 x 430 mm)
Weight	20 lb. (9 kg.)	20 lb. (9 kg.)	20 lb. (9 kg.)	18 lb. (8.16 kg)	13.2 lb. (6 kg)	22 lbs. (10 kg)	33 lb. (15 kg)
Power consumption	75W	85 W	85 W	350 W			
Voltage	120 V	100-240 V	100-240 V	115 V	120 V or 230 V		115 V
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz 50/60 Hz		60 Hz
Airflow max.	220 m³/h	85 m³/h	250 m³/h	305 m³/h	152 m³/h	221 m3/h	319 m³/h
Pressure Max.	1800 Pa	1250 Pa	850 Pa				
Noise Level	55 dB A	< 55 dB A	< 55 dB A	58 dB	54 dB A @ 2m	<55 dB A	<58 dB
Filtration efficiency	99.95% at 0.18 microns	99.97% at 0.3 microns	99.97% at 0.3 microns	98% at 0.3 microns	85% (particle size not specified)		95% to 0.5 microns
Vacuum	Brushless	Brushless	Blower	Brushless	Brushless	Brushless	Brushless
Speed Control	No adjustment	No adjustment	No adjustment	No adjustment	infinitely variable	No adjustment	
Filter Control	None	Two color LED	None	None	Three color LED	1 light	
# Operators	2	1	2	4	2	2	4
Sugg. User Price (base unit; no accessories)	$599.00	N/A	$598.00	$583.00	$710.00		$706.88
Sugg. User Price (1 work place)	$763.00	$495.00		$715.00	$808.00		
Sugg. User Price (2 work places)	$953.50	N/A	$725.00	$847.00	$906.00	$699.00	$1,154.15 (4 workplaces)
Replacement Filter Prices							
Pre-filter	$37.50 (10/pack)	$25.70 (5/pack)	$49.00 (5/pack)	$10.10 (5/pack)		$31.60 (5/pack)	$90.70 (filter set including pre and HEPA filters)
HEPA	$75.00	$77.25	$89.00	$120.00		$298.35	

COOPER Hand Tools