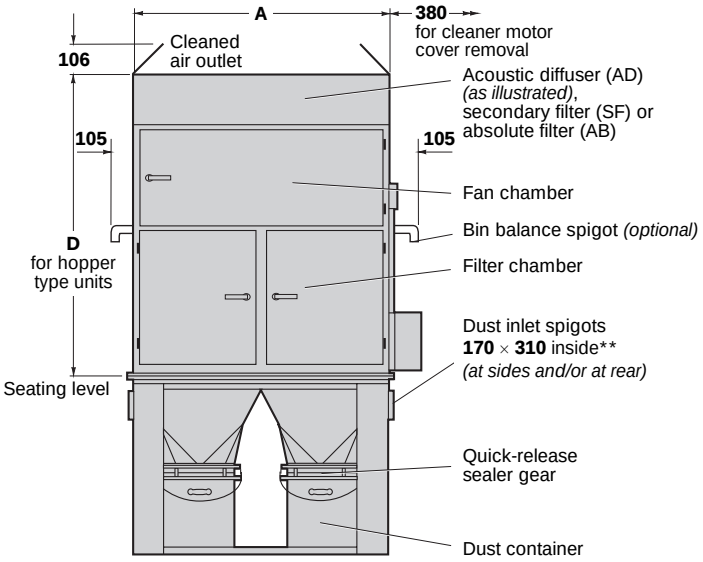
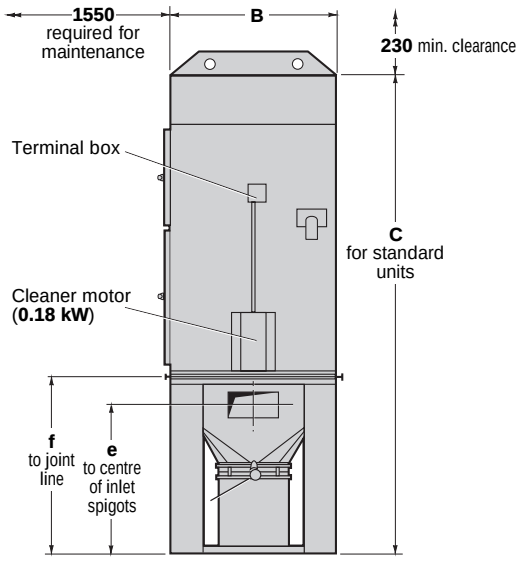
Unimaster Dust Filters

Series UMA 450



FRONT ELEVATION



SIDE ELEVATION

Unimaster standard and hopper type dust control units

Model UMA 454 AD illustrated. Suitable for inside locations.

SPECIFICATIONS

Unit type	Filtration area	DIMENSIONS in mm* A	B	C	d	e	f	Fan type	Motor rating	Dust container (x2)	Approx net weight
454 AD	42m²	1515	965	2886	–	873	1056	K10 K11	5.5 kW 7.5 kW	55 litre	545 kg 610 kg
456 AD	42m²	1515	965	3114	–	1102	1284	K10 K11	5.5 kW 7.5 kW	80 litre	560 kg 620 kg
458 AD	42m²	1515	965	3114	–	1102	1284	K10 K11	5.5 kW 7.5 kW	110 litre	565 kg 625 kg
450H AD	42m²	1515	965	–	1830	–	–	K10 K11	5.5 kW 7.5 kW	–	410 kg 460 kg
454 SF	42m²	1515	965	3104	–	873	1056	K10 K11	5.5 kW 7.5 kW	55 litre	615 kg 680 kg
456 SF	42m²	1515	965	3332	–	1102	1284	K10 K11	5.5 kW 7.5 kW	80 litre	630 kg 690 kg
458 SF	42m²	1515	965	3332	–	1102	1284	K10 K11	5.5 kW 7.5 kW	110 litre	635 kg 695 kg
450H SF	42m²	1515	965	–	2050	–	–	K10 K11	5.5 kW 7.5 kW	–	480 kg 530 kg
454 AB	42m²	1515	965	3304	–	873	1056	K10 K11	5.5 kW 7.5 kW	55 litre	645 kg 710 kg
456 AB	42m²	1515	965	3532	–	1102	1284	K10 K11	5.5 kW 7.5 kW	80 litre	660 kg 720 kg
458 AB	42m²	1515	965	3532	–	1102	1284	K10 K11	5.5 kW 7.5 kW	110 litre	665 kg 725 kg
450H AB	42m²	1515	965	–	2250	–	–	K10 K11	5.5 kW 7.5 kW	–	510 kg 560 kg

*Tolerance ±3mm **DCE tolerance – 0mm to +2mm (NOTE: Outside dimensions of duct connectors must not exceed inside dimensions of inlets)

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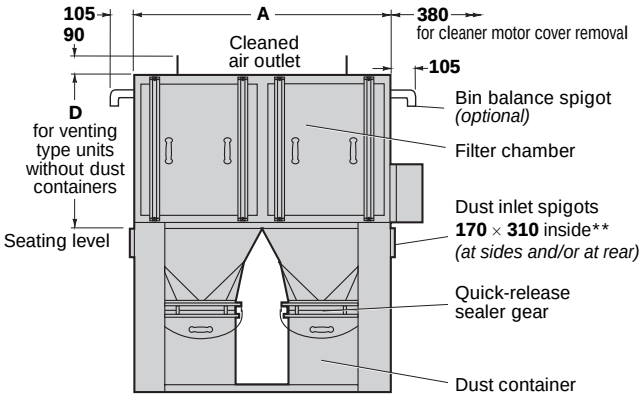
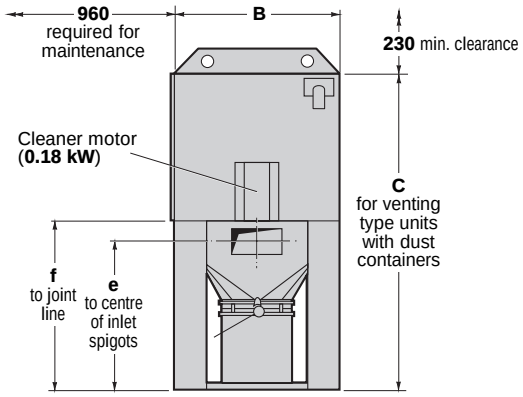


FRONT ELEVATION



SIDE ELEVATION

Unimaster venting type dust control units

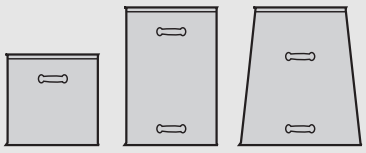
Model UMA 454 V illustrated. Suitable for inside locations and outside when fitted with side outlet box and weather cowl.

SPECIFICATIONS

Unit type	Filtration area	DIMENSIONS in mm* A	B	C	d	e	f	Dust container (x2)	Approx net weight
454 V	42m²	1515	965	1855	–	873	1018	55 litre	350 kg
456 V	42m²	1515	965	2083	–	1102	1246	80 litre	360 kg
458 V	42m²	1515	965	2083	–	1102	1246	110 litre	365 kg
450 V	42m²	1515	965	–	874	–	–	–	215 kg

*Tolerance ±3mm **DCE tolerance – 0mm to +2mm (NOTE: Outside dimensions of duct connectors must not exceed inside dimensions of inlets)

DUST CONTAINERS



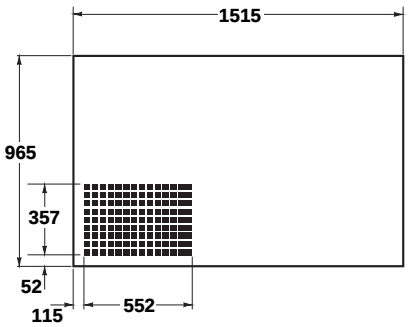
55 litre (2ft³) **80 litre** (3ft³) **110 litre** (4ft³)

Size	Base diameter	Height	Approx. net weight
55 litre	420mm	400mm	5 kg
80 litre	420mm	630mm	7 kg
110 litre	555mm	630mm	8 kg

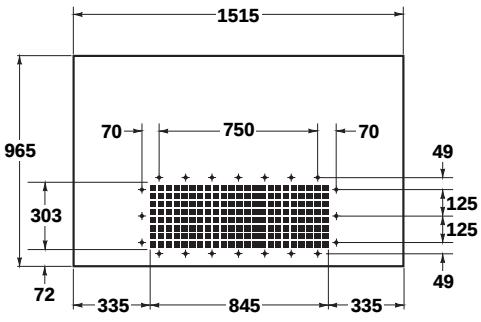
A reasonable total load for removal by hand would be 25 kg

Typical dust densities

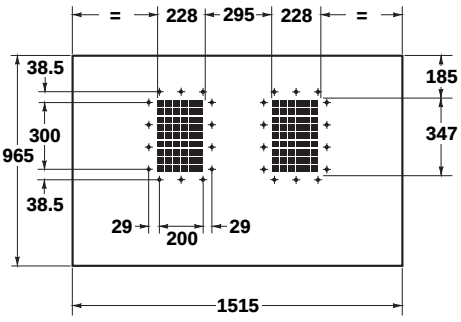
Dust	Density with 50% voidage, in kg/litre
Sander	0.13
Graphite	0.80
Sand	1.33
Iron	3.58
Steel	3.72



Acoustic diffuser



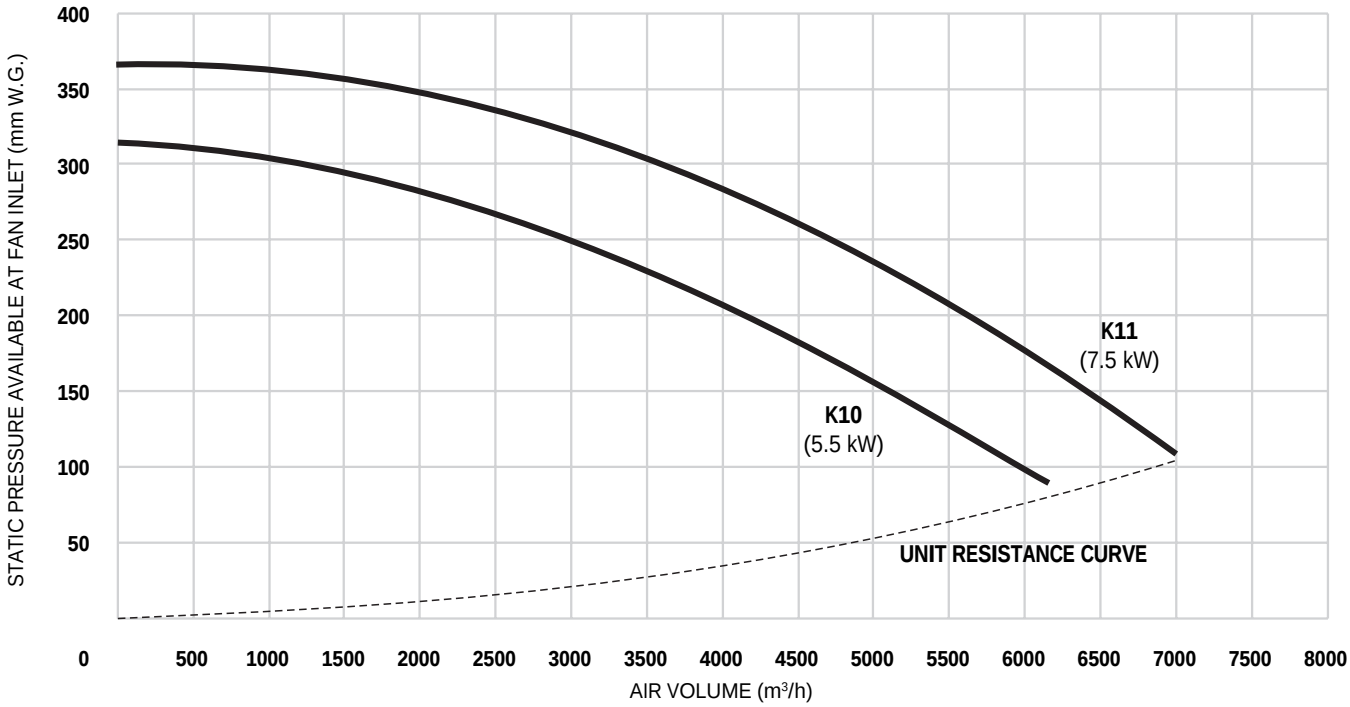
Secondary filter and absolute filter
All holes ∅5.5mm. Pitch centres: 125mm.



Venting type unit
All holes ∅4mm. Pitch centres: 100mm.

Cleaned air outlet details

All outlet grilles shown as punched.



UMA 450 performance curves

FAN SELECTION

These curves indicate static pressure available at fan inlet for a given volume, when fitted inside a Unimaster unit.

To select the most suitable fan for a given application:

1. Determine the air volume, in m³/h, needed to entrain the dust.
2. Read off the unit resistance, in mm W.G., at air volume required.
3. Assess pressure drop across filter bags prior to cleaning, usually 50-100mm W.G.
4. Estimate pressure drop through connected system – i.e. between point of entrainment and unit inlet.
5. The sum of **2**, **3** and **4** = W.G. required.
6. Consult graph for fan performances available.

NOISE LEVELS

Machinery noise levels are an important consideration in the design and selection of new equipment.
Several EC Directives and National Laws/Regulations adopting these directives make reference to airborne noise emissions.
Actions that employers are required to comply with if employees are subjected to a daily personal noise exposure Lep,d of 85 dB(A) or more are also specified.

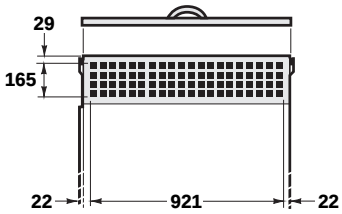
All Unimaster UMA 450 dust control units are below this action limit.

WEIGHTED SOUND PRESSURE LEVELS

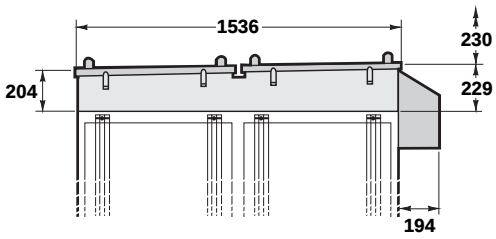
All readings were taken in normal industrial areas, i.e. semi-reverberant surroundings, with local equipment silent.
Measurements were taken at maximum air flow conditions at 1.0 metre radius from the equipment housing and 1.6 metres above base level, using a precision sound level meter and octave filter.

K10	**K11**
74 dB(A)*	76 dB(A)

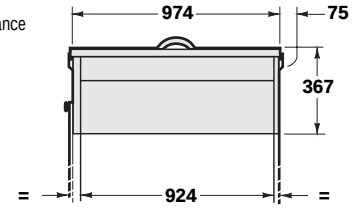
Noise measurements of installed equipment may vary due to site conditions. *Estimated data.



DETAIL OF CLEANED AIR OUTLET WITH WEATHER COWL REMOVED



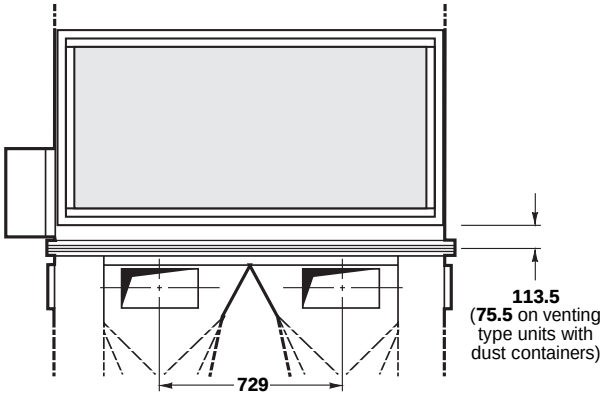
FRONT ELEVATION



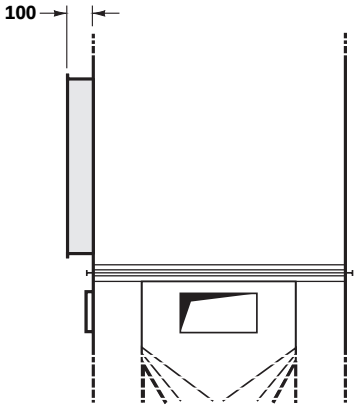
SIDE ELEVATION

Unimaster side outlet box and weather cowl

Model UMA 450 V illustrated. Outlet grille is shown as punched.



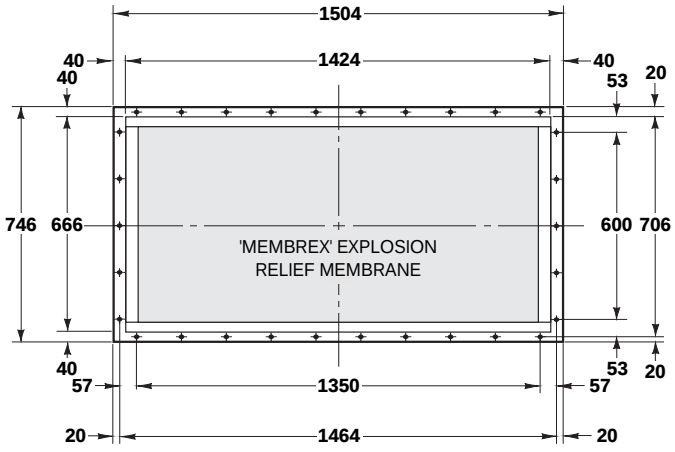
REAR ELEVATION



SIDE ELEVATION

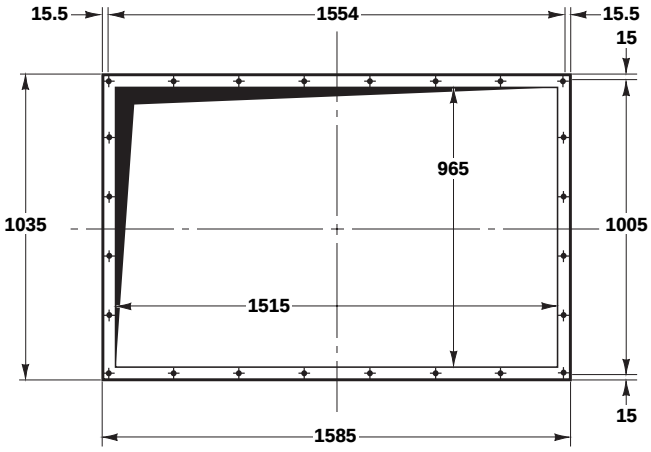
Explosion relief panel and rear dust inlet spigots

Model UMA 454, standard unit illustrated.



Explosion relief flange mounting details

All holes ∅10mm for M8 bolts. Pitch centres: 150mm.



Aperture and mounting flange details for hopper and venting type units

All holes ∅12mm for M10 bolts.
Pitch centres: 222mm horizontally; 201mm vertically.

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