

Product manual

Extraction arm

KUA

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Thank you for buying a PlymoVent product.
Before you unpack and begin installation please read
this product manual, and follow the instructions.

**THIS MANUAL SHOULD BE DELIVERED
TO AND MAINTAINED IN THE SERVICE
DEPARTMENT AFTER THE INSTALLATION!**

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Ball-bearing jointed extraction arm KUA

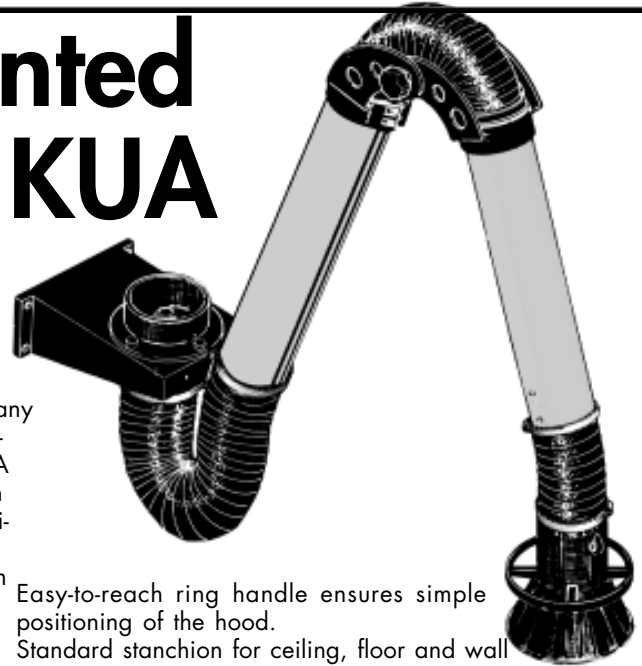
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Ball-bearing jointed extraction arm KUA

The PlymoVent ball-bearing jointed extraction arm – KUA – is a flexible and efficient extractor for dust, welding fumes, soldering fumes, oilmist, fumes from solvents etc. Ideal for many problem areas. The outer and inner arm are coupled by an externally mounted elbow joint for which we have a patent application pending. This external joint is adjusted by hand without the need for any tools. The lower spring-assisted joint supported in a double ball-bearing mount, gives KUA a smooth, flexible movement. The KUA reaches above its mounting height and is manoeuvrable through 360°. Both outer and inner arms are made of light, smooth aluminium tubing. This not only makes the arm rugged but also minimizes the total weight and noise level, even at high extraction rates.

Advantages

- Easy to move thanks to the ball-bearing mountings and spring assistance.
- Inner and outer arms made from aluminium tubing give increased mechanical strength.
- External, middle joint simplifies adjustments.
- Reaches up to 19.7 ft with stanchion PA-220.
- Rugged construction.

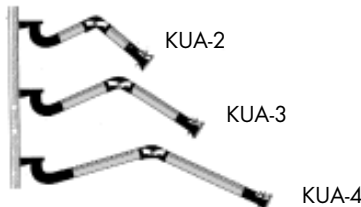


- Easy-to-reach ring handle ensures simple positioning of the hood.
- Standard stanchion for ceiling, floor and wall mounting makes installation easy.

Delivery

The extraction arm is delivered complete with wall mounting bracket on which the fan may be directly fitted. A Ø 6.30" spigot for connection to a central ductwork system is also provided.

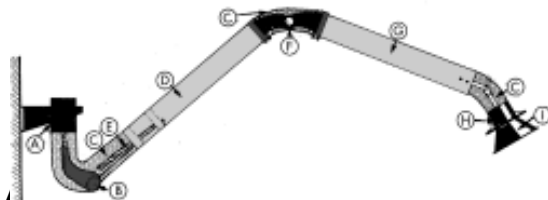
Technical data



Standard model for wall and stanchion mounting. 6.6 ft, 9.8 ft and 13.1 ft reach. Mounting bracket included.

| Model No. | Max. Working Radius ft | Hose Diameter inches | Recommended Airflow CFM |
|-----------|------------------------|----------------------|-------------------------|
| KUA-2 | 6.6 | 6.30 | 450 – 700 |
| KUA-3 | 9.8 | 6.30 | 450 – 700 |
| KUA-4 | 13.1 | 6.30 | 450 – 700 |

Components and operation



- A complete with Ø 6.30" inlet spigot.
- B Inner arm pivot with friction pad tensioning adjustment.
- C Flame resistant hose made from PVC coated woven polyamide with internal steel spiral.
- D Aluminium inner arm.
- E Tensioned support spring.
- F Externally adjustable elbow joint (patent application pending).
- G Aluminium outer arm.
- H Universal joint with hood collar ring handle and shut-off damper.
- I Hood, constructed from sheet steel, includes safety mesh and quick-fit coupling. Hood opening Ø11.8". 360° ring handle Ø 11.8".

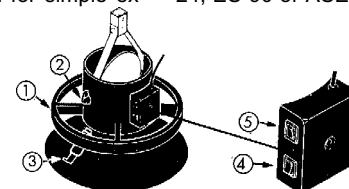
NOTE: THE HOOD CAN BE TURNED 110° IN ALL DIRECTIONS.

Handling

- 360° ring handle for positioning of the hood. Can be reached from all sides.
- Damper control knob.
- Quick-fit catch for simple ex-

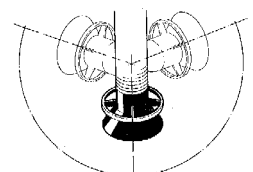
change of extension hose and hood.

- Switch for light cartridge (see accessories HL-20/24).
- Switch for manual start/stop of fan or damper (see accessories SA-24, ES-90 or ASE-12).



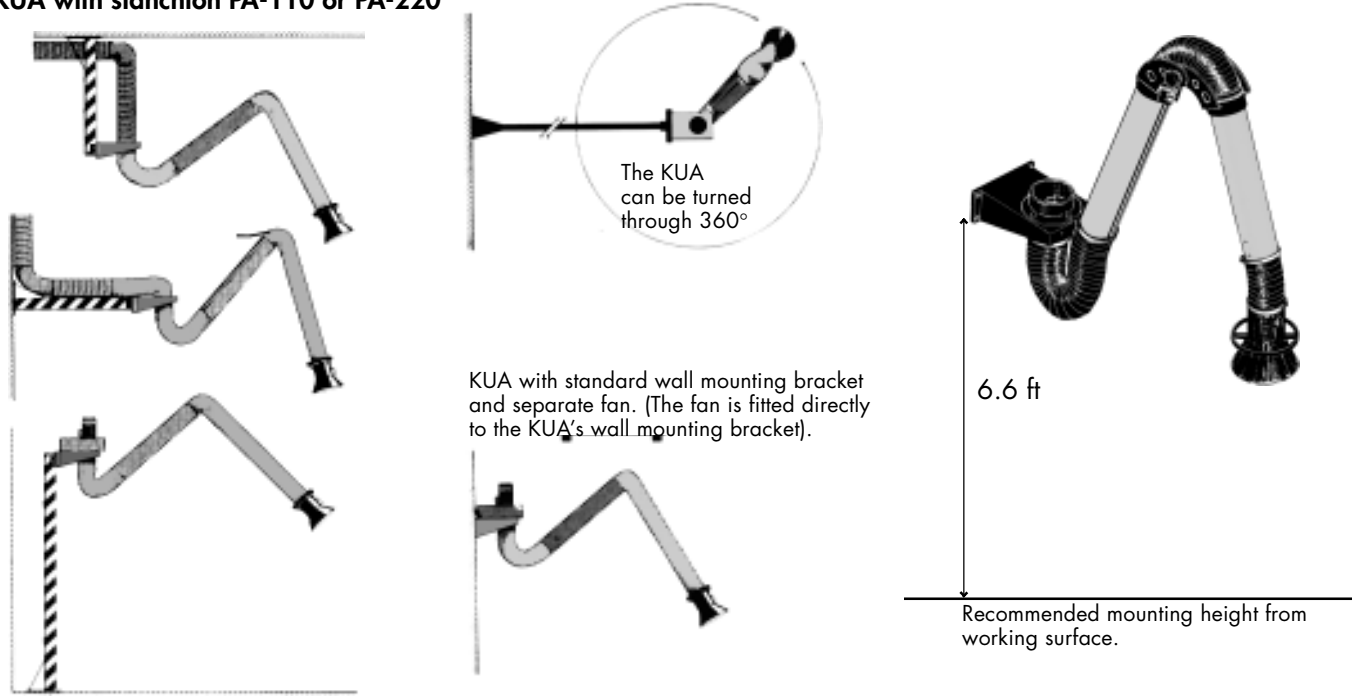
Hood operation

The black, enamelled anodized metal hood can be angled 110° forwards, backwards and to the sides. Large, 360°, ring handle, Ø11.8".

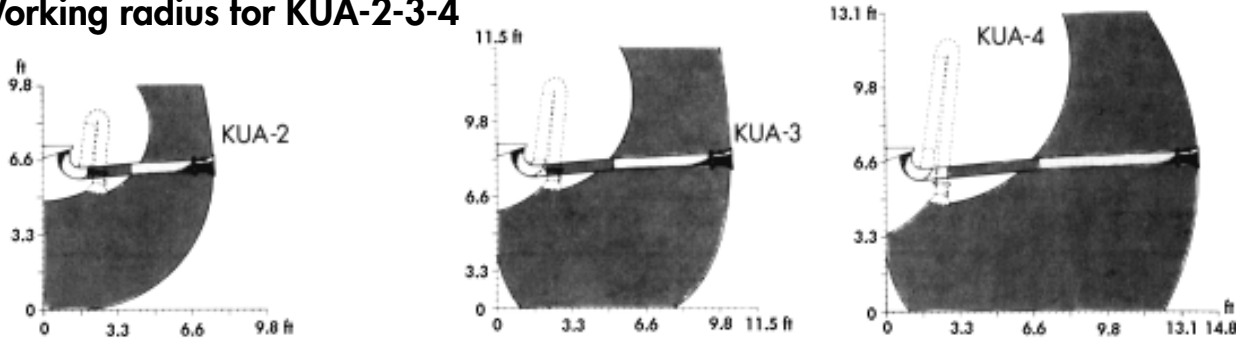


Mounting Examples

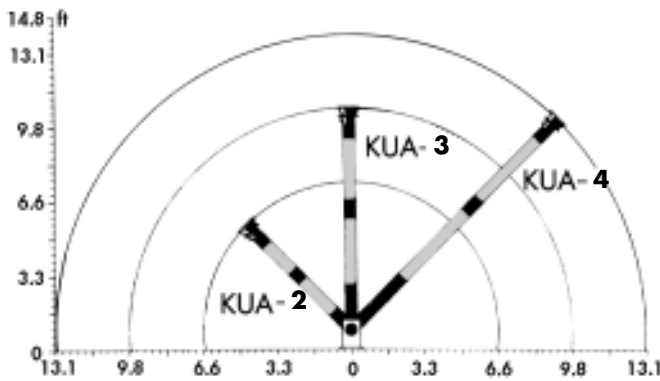
KUA with stanchion PA-110 or PA-220



Working radius for KUA-2-3-4



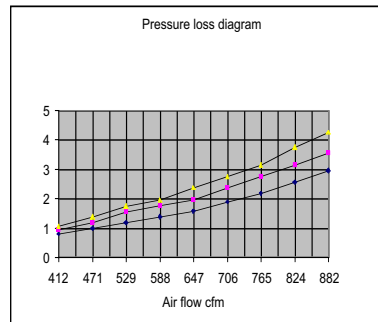
Maximum reach with KUA-2, -3, -4



Pressure loss

The pressure loss diagram below shows the average pressure loss through the KUA. The pressure loss can vary within the shaded area.

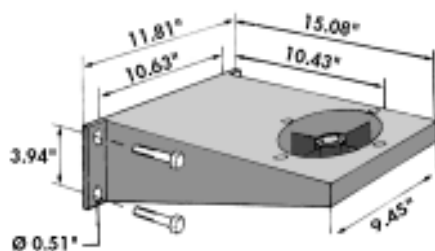
Welding: 500 - 700 CFM



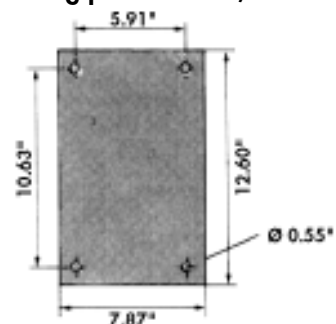
The following aspects affect the pressure loss in the KUA arm:

1. The length of the arm: 6.6, 9.8 or 13.1 ft.
2. The air volume.
3. The bends in the arm.

Wall mounting bracket for KUA

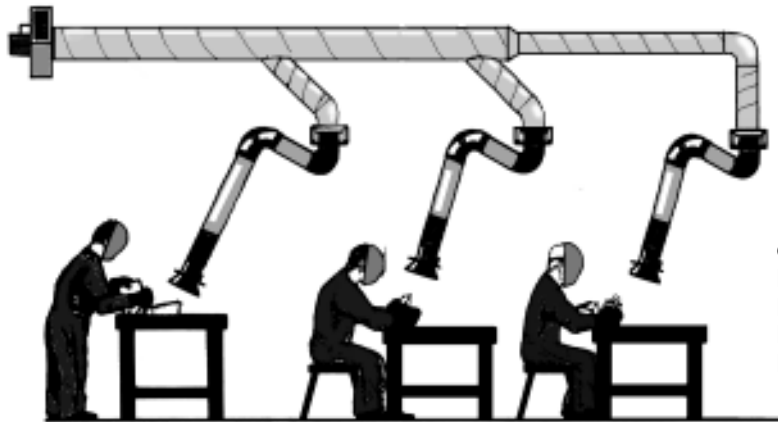


Mounting plate PA-110, 220



Alternative System Layouts

Alt. 1

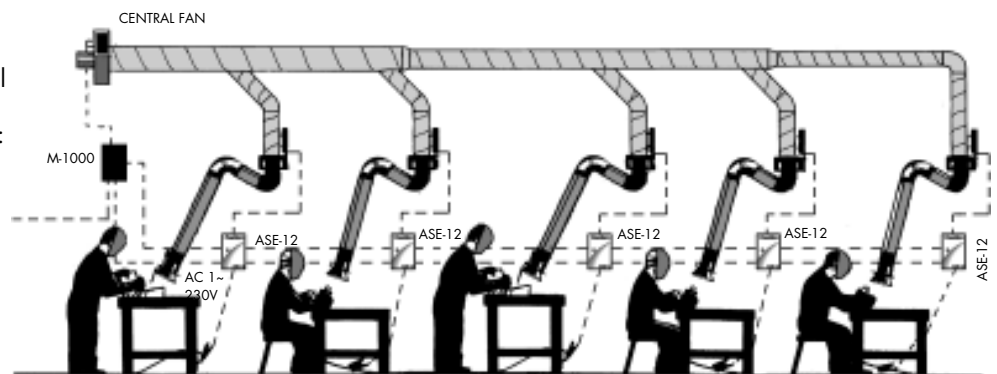


Central system: 3 x KUA-3.
 Recommended fan per no. of arms:
 FS-3000: 2-3 arms
 FS-4700: 3-4 arms
 FA-6000: 4-5 arms

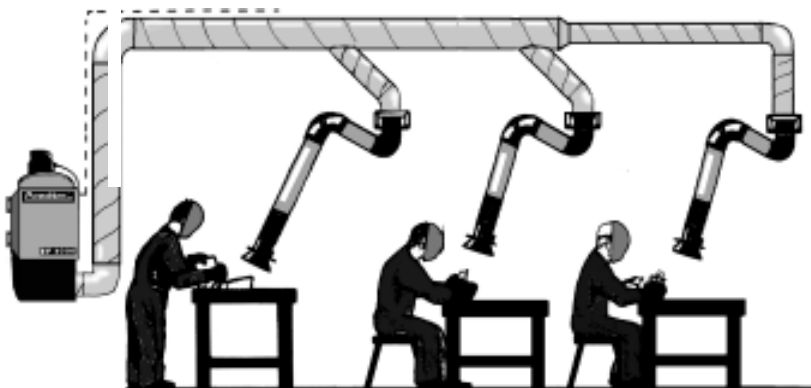
Alt. 2

Central system: 5 X KUA-3 with automatic dampers ASE-12, control unit M-1000, and a central fan.
 Recommended fan per no. of arms:
 FS-2100: 2-4 arms.
 FS-3000: 3-6 arms.
 FS-4700: 4-8 arms.
 FA-6000: 6-10 arms.

As every working place is unique, the above recommendations are only applicable for theoretically calculated examples.



Alt. 3



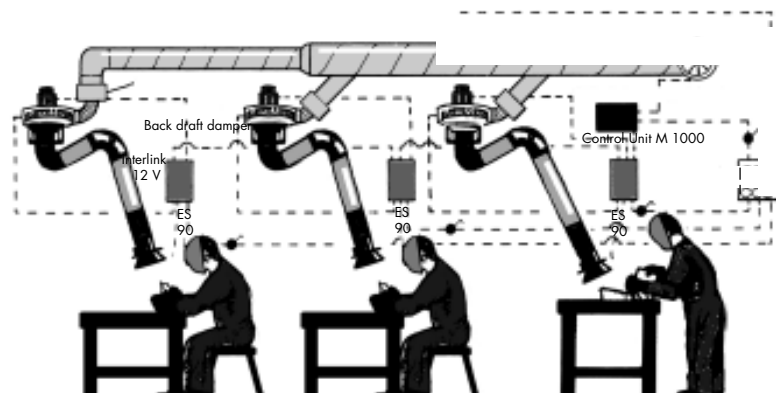
Central system: 3X KUA-3 connected to an electrostatic filter EF-3000.
 Recommended filter per no. of arms:
 EF-2000: 1-2 arms*
 EF-3000: 1-3 arms*
 EF-5000: 2-5 arms*
 When more arms are required, use ASE-12 (see Alt. 2).

*For continuous use.

Alt. 4

Central system: 3 X KUA-3 with separate fans and energy savers connected to control unit M-1000 for a central fan.

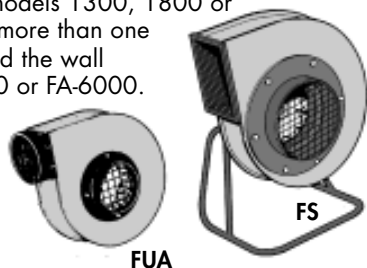
See Technical Data description on energy savers ES-90.



Complementary Products and Accessories

Fans FUA

FUA fans are attached directly to the KUA mounting bracket. Available in three sizes with freeblowing air volumes of 825, 1060 and 1300 CFM. A unique anti-spark impeller made from aluminium gives maximum security. For wall- or ceiling mounted, choose "FS"-fan stand models 1300, 1800 or 2100. In a system with more than one extractor, we recommend the wall mounted FS-3000, 4700 or FA-6000.



| Fan Prod no. | Airflow CFM Freeblowing | Airflow CFM at the hood of the KUA | Motor HP/Phase |
|--------------|-------------------------|------------------------------------|-----------------|
| FUA-1300 | 825 | 1 KUA = 590 | 1/2 HP, 3 phase |
| FUA-1301 | 825 | 1 KUA = 590 | 1/2 HP, 1 phase |
| FUA-1800 | 1060 | 1 KUA = 740 | 3/4 HP, 3 phase |
| FUA-2100 | 1300 | 1 KUA = 825 2 KUA = 380 ea | 1 HP, 3 phase |
| FUA-2101 | 1300 | 1 KUA = 825 2 KUA = 380 ea | 1 HP, 1 phase |
| FS-3000 | 2000 | 2 KUA = 765 ea 3 KUA = 500 ea | 1.5 HP, 3 phase |
| FS-4700 | 2840 | 3 KUA = 765 ea 4 KUA = 560 ea | 3 HP, 3 phase |
| FA-6000 | 3540 | 4 KUA = 765 ea 5 KUA = 620 ea | 7.5 HP, 3 phase |

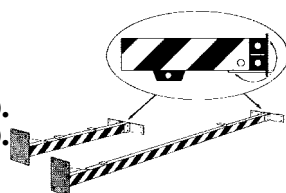
NOTE: ALL FANS MUST BE FITTED WITH RELEVANT MOTOR OVERLOAD (NOT INCLUDED).

Stanchion

Accessory for ceiling, floor or wall mounting of KUA.

Length: 3.6 ft. **Prod No: PA-110.**

Length: 7.2 ft. **Prod No: PA-220.**



Halogen Lamp Cartridge

To be fitted in the hood. Consists of 20W/24V halogen lamp, switch assembly and 32.8 ft cable.

Must be complemented with transformer TR-24 or starter SA-24.

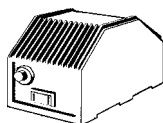
Prod No. HL-20/24



Transformer

115 VAC-24V/sec. Transformer for halogen lamp cartridge HL-20/24.

Prod No. TR-24



* Other voltages are available

Automatic Damper

Fully automatic motor driven damper for fitting to Ø 6.30" duct. Adjustable overrun period between 7 seconds and 6 minutes, to capture after-fume. Inductive sensor clamp with 16.4 ft of cable is included as standard. Line supply: 115 thru 460 VAC. Also includes switch assembly (S-100) for manual control from the hood.

Prod No. ASE-12

* Other voltages are available



Energy Saver

For autom. start/stop of fan. Adjustable overrun period of between 7 sec. - 6 min. Incl. inductive sensor clamp with 16.4 ft of cable. Built-in contactor for up to 5 HP fan must be fitted with relevant fan-motor overload (not included).

Line supply: 115 thru 460 VAC.

Prod No. ES-90-005 Incl. 75 VA/24V transformer. For one arm with light and one fan.

* Other voltages are available



Switch Assembly

Switch assembly with 32.8 ft cable for manual operation from the hood of fan and light. Also supplied as standard as part of ES-90 and ASE-12.

Prod No. S-100



Control Unit

For automatic start or stop of a central fan up to 5 HP in a system with several extractors.

To be used in conjunction with the Energy Saver or Automatic Damper. Line supply:

115 thru 460 VAC.

Prod No. M-1000

* Other voltages are available



Starter

For manual start/stop of the fan up to 5 HP via a switch in the hood. Complete with switch assembly and 32.8 ft cable. Built-in contactor must be fitted with relevant fan-motor overload (not included).

Line supply: 115 thru 460 VAC.

Prod No. SA-24/75 includes 75 VA/24V transformer for halogen lamp on one workstation.

* Other voltages are available

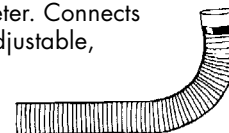


* Other voltages are available

Semi-rigid Extension Hose

For all extraction arms 6.30" in diameter. Connects with quick-fit coupling. Flexible and adjustable, 4.92 diameter. Length 3.3 ft.

Prod No. FSL-1



Extension Hose

Ø 6.30" extension hose with quick-fit coupling for connection to the fume extraction arm. PVC coated woven glassfibre with inner steel spiral support. Hood with double magnetic foot and handle for easy positioning.

Prod No. SLE-20, 6.6 ft in length

Prod No. SLE-30, 9.8 ft in length

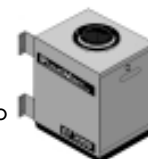


Electrostatic Filters

Clean the air so efficiently (up to 99.9%) that you may recirculate the already heated air into the workshop. Huge energy savings. Also excellent for filtering oilmist. Are available in sizes up to 2950 CFM.

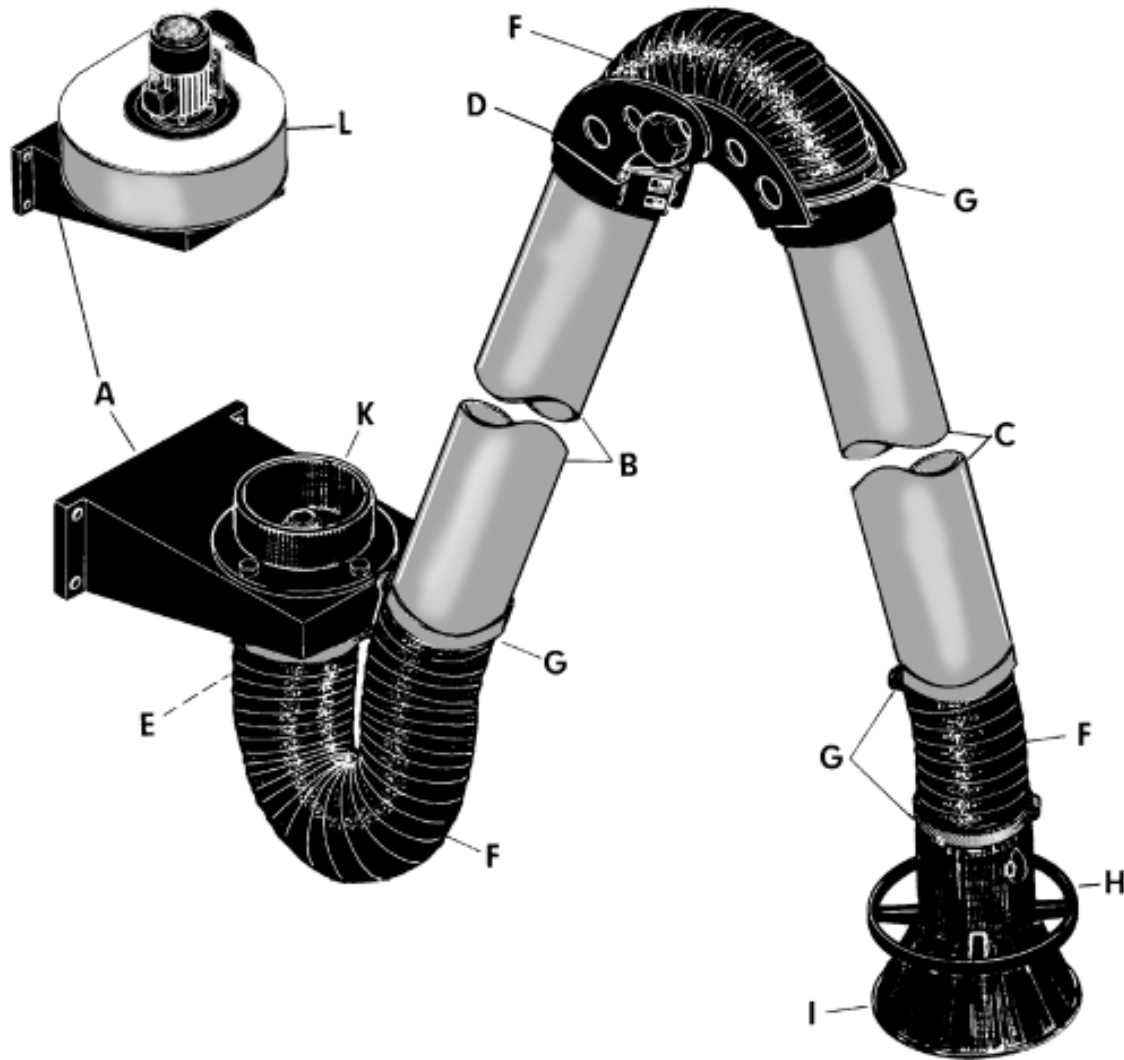
For more information, see technical data for oilmist and Electrostatic Filters (EF/EFO).

* Other voltages are available



EXTRACTION ARM
 KUA-2, -3, -4.

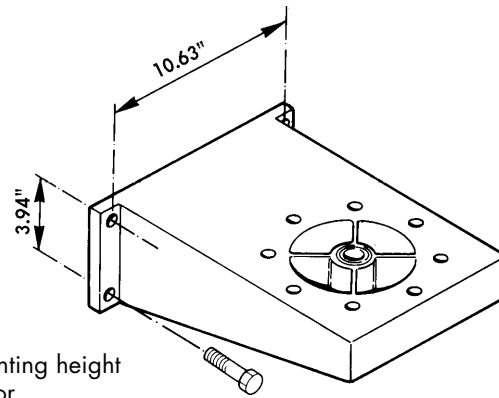
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| Pos no | DESCRIPTION | Pos no | DESCRIPTION |
|--------|------------------|--------|------------------|
| A | Mounting bracket | G | Hose clamp |
| B | Inner arm | H | Hood collar |
| C | Outer arm | I | Hood |
| D | Hinged joint | K | Ductwork adaptor |
| E | Rubber collar | L | Fan |
| F | Hose | | |

Mounting instructions

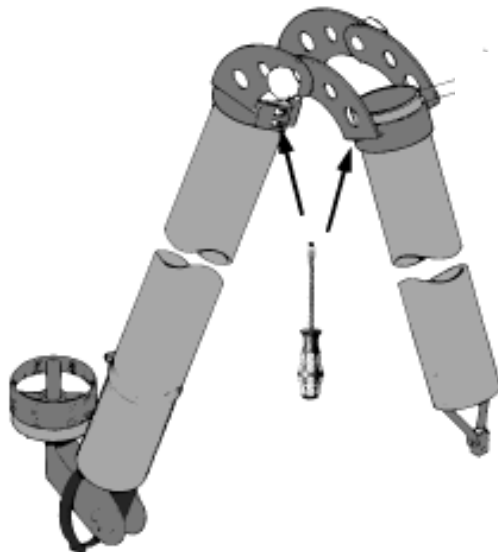
1. Bolt mounting bracket to wall.



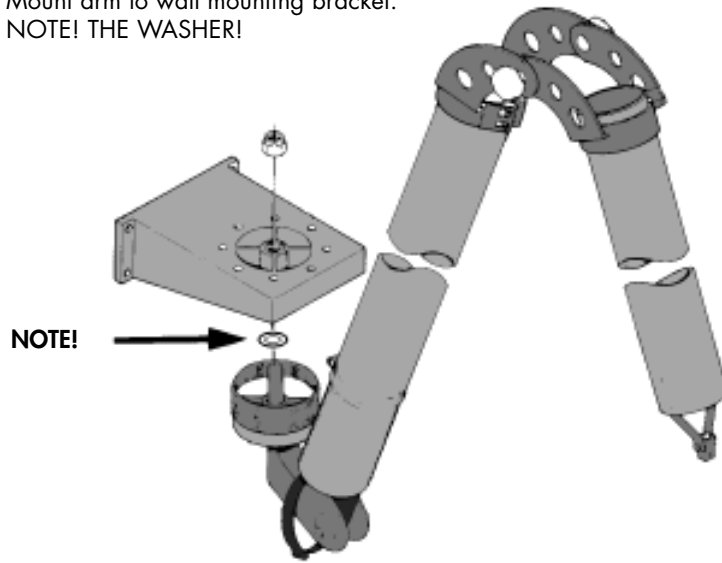
Recommended mounting height
7.2 - 9.8 ft from floor.

2. Attach inner arm to outer arm by means of hinged joint and fit plastic ring and rubber collar to inner arm.

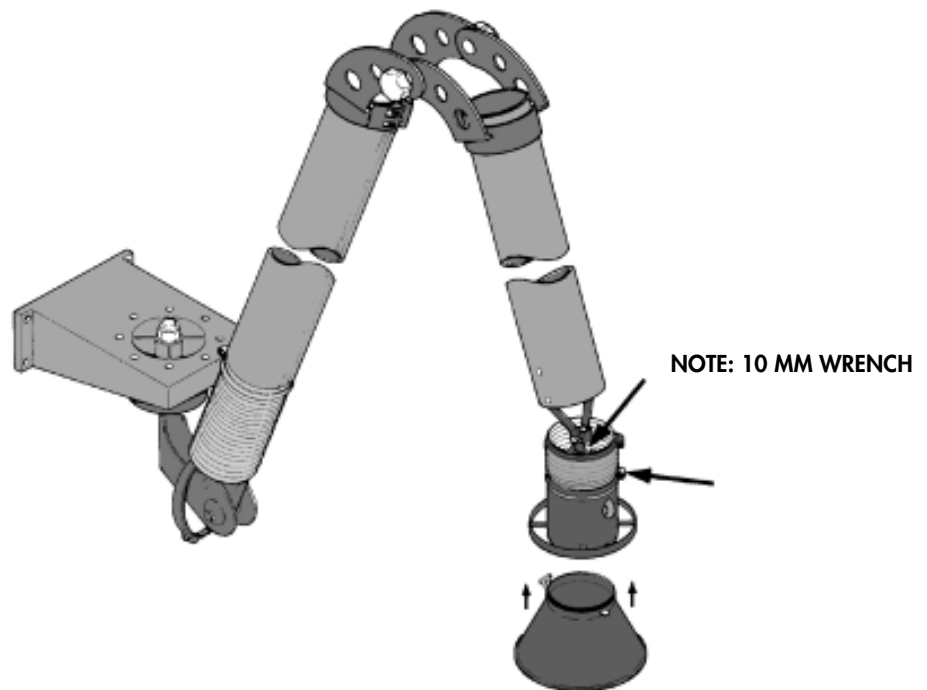
NOTE: BE CAREFUL TO OBSERVE INDEXING SLOT ON PLASTIC RING.



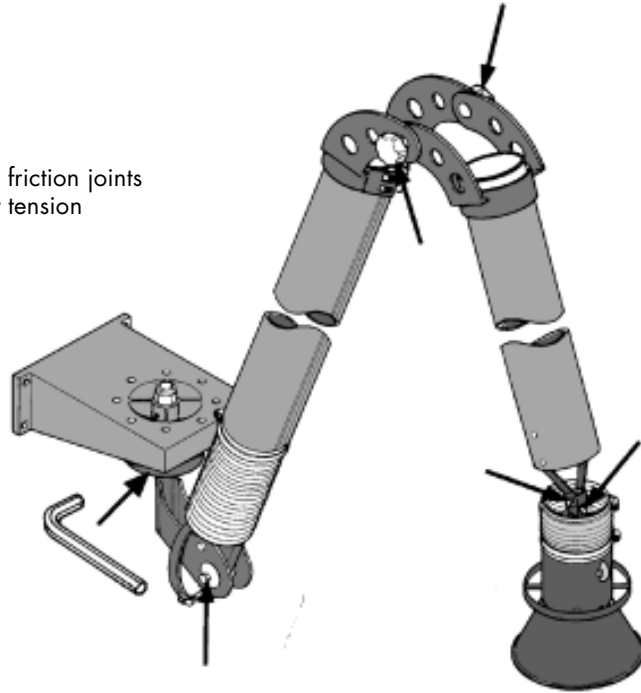
- 3.** Mount arm to wall mounting bracket.
NOTE! THE WASHER!



- 4.** Fit hose, hose clamps (8 mm nut driver), hood collar and hood to outer arm (Hose 15.76" long - 6.3" dia).

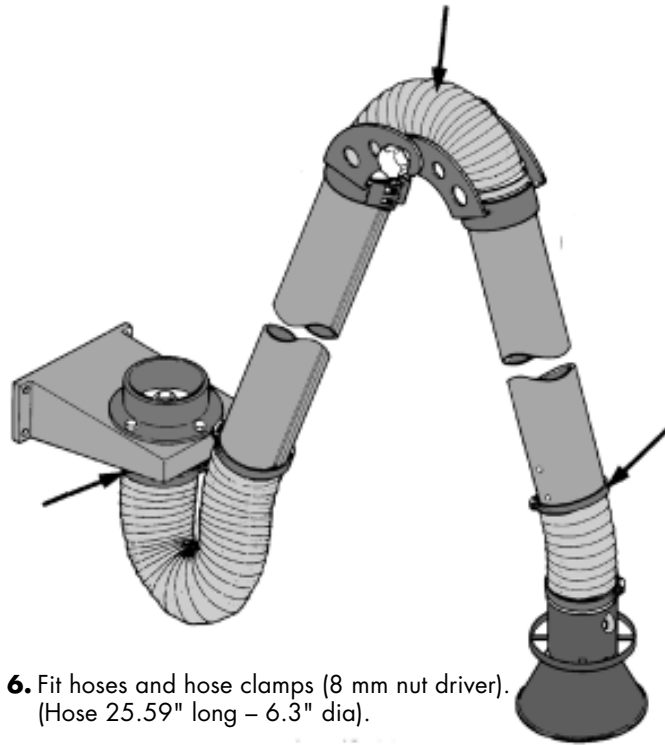


- 5.** Adjust all friction joints to correct tension

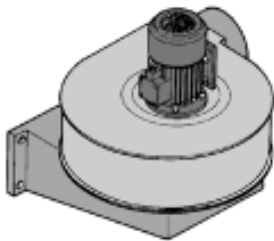


NOTE: 6 MM ALLEN KEY

NOTE: 16+17 MM WRENCH



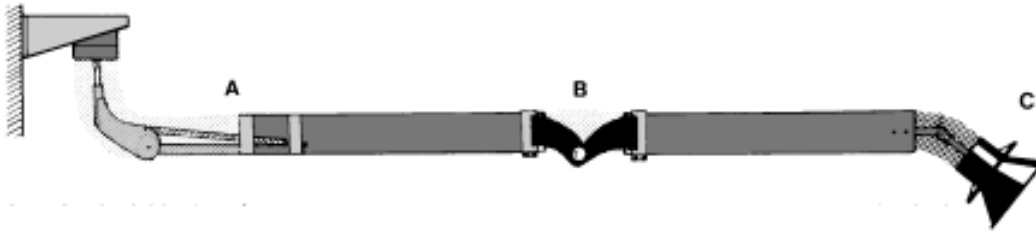
- 6.** Fit hoses and hose clamps (8 mm nut driver).
(Hose 25.59" long – 6.3" dia).



- 7.** Fit either duct adaptor or fan to mounting bracket.

KUA

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A. If the arm will not stay in the required position:

1. Loosen the hose at A.
2. Pull the extractor out to its full length and angle it horizontally. Loosen the friction brake until the arm drops towards the floor. Tighten until it no longer drops. Note: 16+17 mm wrenches.
3. If the arm is difficult to move sideways or moves on its own sideways, then adjustments must be made to the friction collar. This is done by either loosening or tightening the drag brake located in the wall mounting bracket. Use an 6 mm allen key.



B. If the outer arm will not stay in the required position:

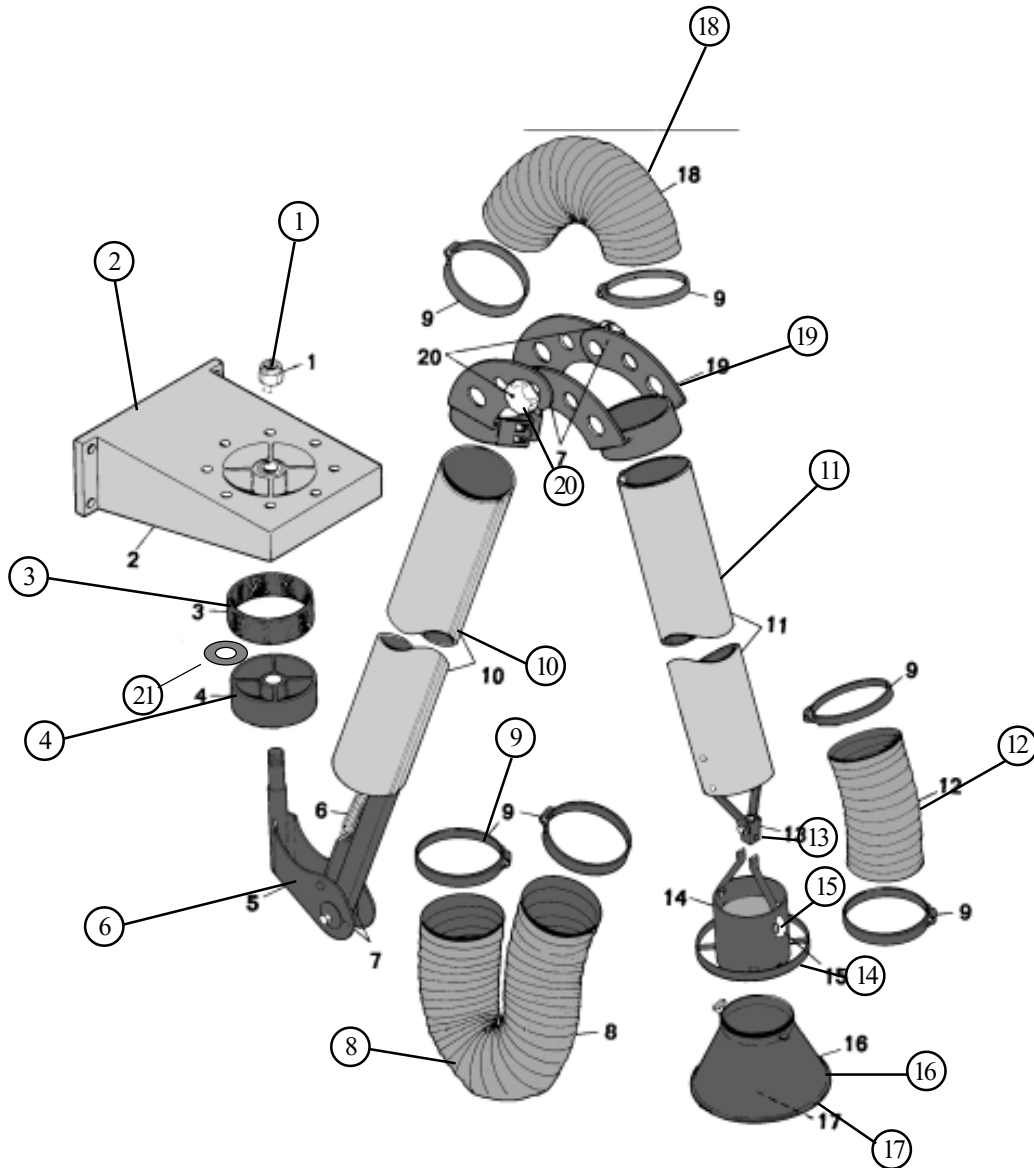
1. Angle the outer arm horizontally. Loosen the friction brake knobs on the plastic hinged elbow joint until the arm drops towards the floor. Tighten until it no longer drops.

C. If the hood will not stay in the required position:

1. Loosen the hose at C.
2. Adjust the universal joint (see picture) until the hood will stay in the exact position.

EXTRACTION ARM KUA

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SPARE PARTS LIST

BSAB No: T3.1
 Ser. No: KUA / RR
 Date: Aug -98
 Replace:

KUA

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Produkt No:

Description

| | | |
|---|------------|-------------------|
| A | All models | All models of KUA |
| B | KUA2 | |
| C | KUA3 | |
| D | KUA4 | |
| E | | |
| F | | |
| G | | |

Abbreviations

X = Order as required, state required length.

| Pos | Art. No: | A | B | C | D | E | F | G | Description | Note |
|-----|-------------|---|---|---|---|---|---|---|---------------------------------|------|
| 1 | 957 977 | 1 | | | | | | | Locking nut M20 | |
| 2 | 506 527 | 1 | | | | | | | Wall mouting bracket | |
| 3 | 972 398 | 1 | | | | | | | Rubber collar | |
| 4 | 505743-Z | 1 | | | | | | | Plastic ring | |
| 6 | 506683-P | | 1 | | | | | | Inner arm compl. | |
| | 506733-P | | | 1 | | | | | Inner arm compl. | |
| | 506758-P | | | | 1 | | | | Inner arm compl. | |
| 7 | | | | | | | | | | |
| 8 | 989 038 | | 1 | | | | | | Hose for inner arm L-850, 2,8' | |
| | 989 061 | | | 1 | 1 | | | | Hose for inner arm L-1000, 3,3' | |
| 9 | 961 466 | 6 | | | | | | | Jubilee clip | |
| 10 | 503524-Z | | 1 | | | | | | Inner arm tube | |
| | 503532-Z | | | 1 | | | | | Inner arm tube | |
| | 503540-Z | | | | 1 | | | | Inner arm tube | |
| 11 | 506766-Z | | 1 | | | | | | Outer arm tube | |
| | 506774-Z | | | 1 | | | | | Outer arm tube | |
| | 506782-Z | | | | 1 | | | | Outer arm tube | |
| 12 | 988 980 | 1 | | | | | | | Hose for outer arm L-400, 1,3' | |
| 13 | 506824-Z | 1 | | | | | | | Universal joint | |
| 14 | 506535-Lego | 1 | | | | | | | Hood collar and ring handle | |
| 15 | 505545-Z | 1 | | | | | | | Damper and handle | |
| 16 | 506 818 | 1 | | | | | | | Hood | |
| 17 | 505 808 | 1 | | | | | | | Mesh for hood | |
| 18 | 989 004 | 1 | | | | | | | Hose midle joint L-650, 2,1' | |
| 19 | 512 350 | 1 | | | | | | | Hinged joint | |
| 20 | 512350-Z | 1 | | | | | | | Washer kit | |
| 21 | 951 939 | 1 | | | | | | | Washer | |
| 22 | | | | | | | | | | |

When ordering spare parts please quote:

•Product No. (see label) • Batch No • Description • Part No • Quantity

For example:

KUA, 00040, plastic ring, 505743 , 1 pc