

Product manual

Flex-Max

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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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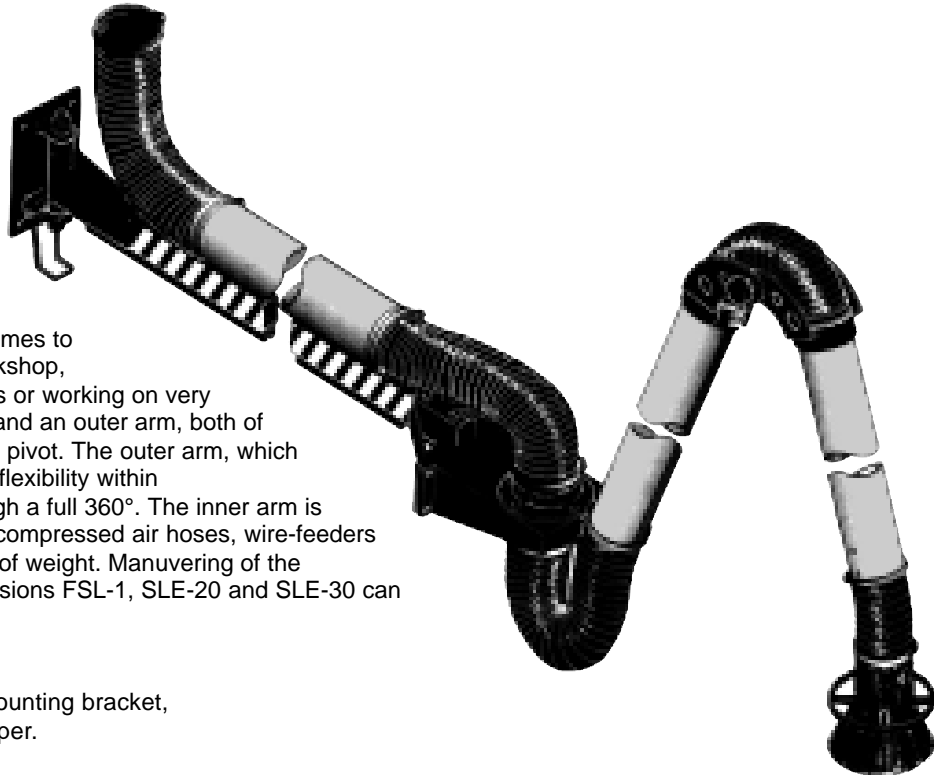
Flex-Max

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Flex-Max

The PlymoVent Flex-Max is the perfect extraction arm in situations requiring maximum flexibility. With the Flex-Max arm you can cover the whole working area. Models range from 13.1 ft up to 28.9 ft working radius. The hood can reach from the floor up to 13.1 ft above the mounting height.

Flex-Max is a real problem solver when it comes to reaching into the tightest corners of the workshop, positioning very low, reaching long distances or working on very high objects. Flex-Max consists of an inner and an outer arm, both of which are mounted on a double ball-bearing pivot. The outer arm, which has three adjustable joints, gives maximum flexibility within its working radius and may be rotated through a full 360°. The inner arm is equipped with a suspension rail for cables, compressed air hoses, wire-feeders etc. This can be loaded with up to 110.0 LB of weight. Manuvering of the extraction arm is from the hood. Hose extensions FSL-1, SLE-20 and SLE-30 can easily be fitted to the extraction arm.



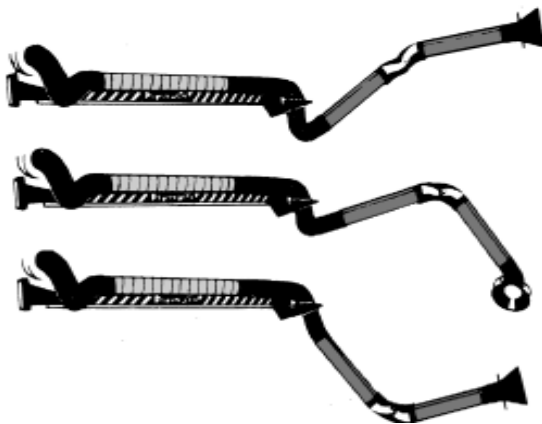
Delivery

Flex-Max is delivered complete with wall mounting bracket, arm, hose and hood fitted with manual damper.

Advantages

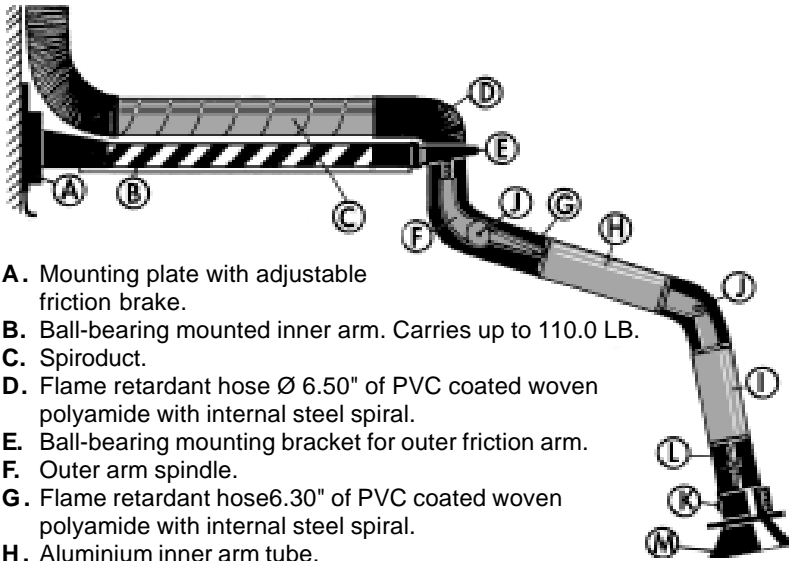
- Ingenious patented construction with two ball-bearing mounted hinges and three easily adjustable joints in the fume arm.
- Maximum flexibility within a working radius of up to 29.5 ft (dependent on the choice of arm).
- Quick and easy to position.
- Can carry up to 110 LB suspended from the inner arm.
- You can choose mounting height, high up on the wall or low down.
- Elegant design and high quality

Technical data



Prod. no:	Max working radius ft	Total weight in LB	Recommended mounting height in ft	Recommended ariflow at hood in CFM	Hose Ø in inches
FM-1520	13.1	101.2	6.6-9.8	450-700	6.30
FM-1530	16.1	105.6	6.6-13.1	450-700	6.30
FM-1540	19.0	110.0	8.2-16.4	450-700	6.30
FM-2520	16.4	127.6	6.6-9.8	450-700	6.30
FM-2530	19.4	132.0	6.6-13.1	450-700	6.30
FM-2540	22.3	136.4	8.2-16.4	450-700	6.30
FM-3520	19.7	173.8	6.6-9.8	450-700	6.30
FM-3530	22.6	178.2	6.6-13.1	450-700	6.30
FM-3540	25.6	182.6	8.2-16.4	450-700	6.30
FM-4520	23.0	200.0	6.6-9.8	450-700	6.30
FM-4530	25.9	204.6	6.6-13.1	450-700	6.30
FM-4540	28.9	209.0	8.2-16.4	450-700	6.30

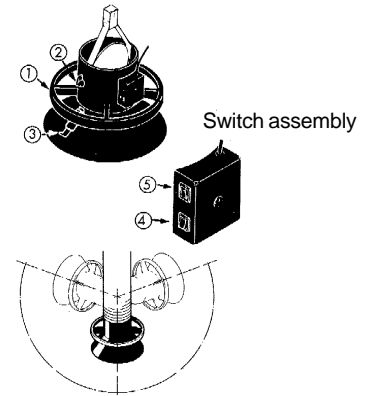
Components and Operation



- A. Mounting plate with adjustable friction brake.
- B. Ball-bearing mounted inner arm. Carries up to 110.0 LB.
- C. Spiroduct.
- D. Flame retardant hose Ø 6.50" of PVC coated woven polyamide with internal steel spiral.
- E. Ball-bearing mounting bracket for outer friction arm.
- F. Outer arm spindle.
- G. Flame retardant hose 6.30" of PVC coated woven polyamide with internal steel spiral.
- H. Aluminium inner arm tube.
- I. Aluminium outer arm tube.
- J. Outer arm pivot with friction pad for tensioning adjustment.
- K. Universal joint with hood collar and manual shut-off damper.
- L. Flame retardant hose Ø 6.30" flexible hose of PVC coated woven polyamide with internal steel spiral.
- M. Optimally designed hood with safety mesh covering the 11.81" diameter opening. Can be fitted with 20 W halogen lamp cartridge.

Handling

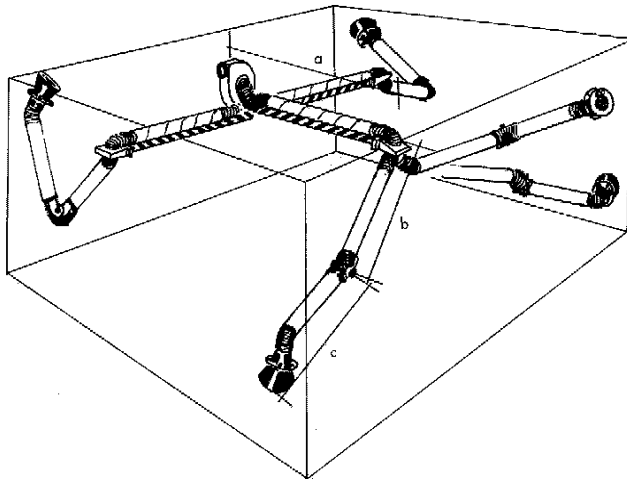
1. 360° ring handle for positioning of the hood. Can be reached from all sides.
2. Damper control knob.
3. Quick-fit catch for simple exchange of extension hose and hood.
4. Switch for light cartridge (see accessories HL-20/24).
5. Switch for manual start/stop of fan or damper (see accessories SA-24, ES-90 or ASE-12).



Hood operation

The black, enamelled anodized metal hood can be angled 110° forwards, back-wards and to the sides. Large, 360°, ring handle, Ø 11.81".

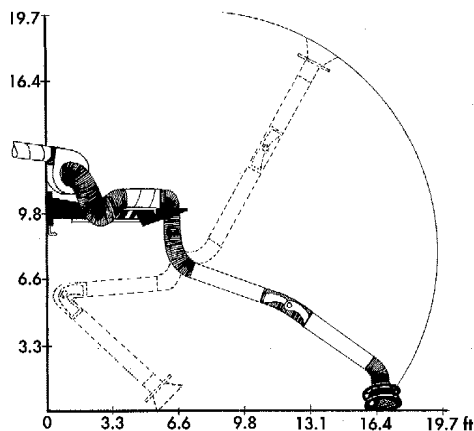
Working areas



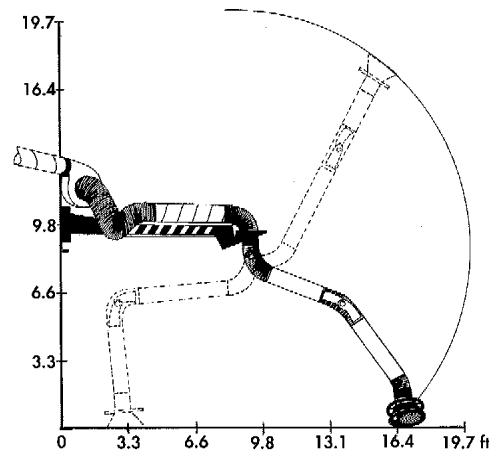
Prod. nr:	a inches	b inches	c inches
FM-1520	72.83	44.09	42.13
FM-1530	72.83	64.96	59.84
FM-1540	72.83	90.55	73.62
FM-2520	112.20	44.09	42.13
FM-2530	112.20	64.96	59.84
FM-2540	112.20	90.55	73.62
FM-3520	151.57	44.09	42.13
FM-3530	151.57	64.96	59.84
FM-3540	151.57	90.55	73.62
FM-4520	190.94	44.09	42.13
FM-4530	190.94	64.96	59.84
FM-4540	190.94	90.55	73.62

Flex-Max 1540

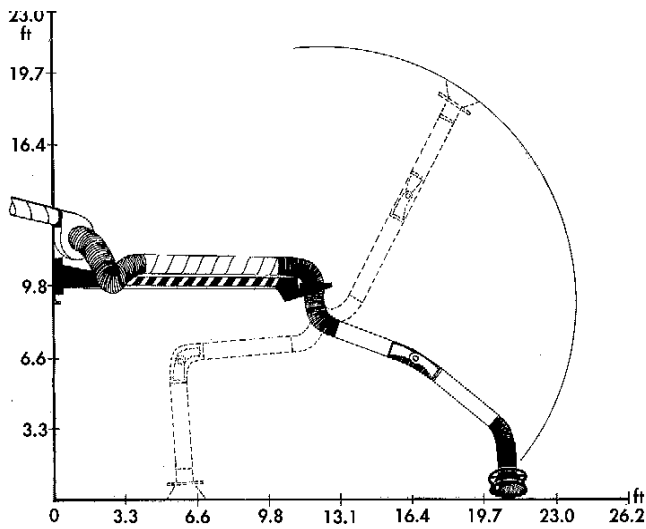
Recommended mounting height 8.2 ft - 9.8 ft.



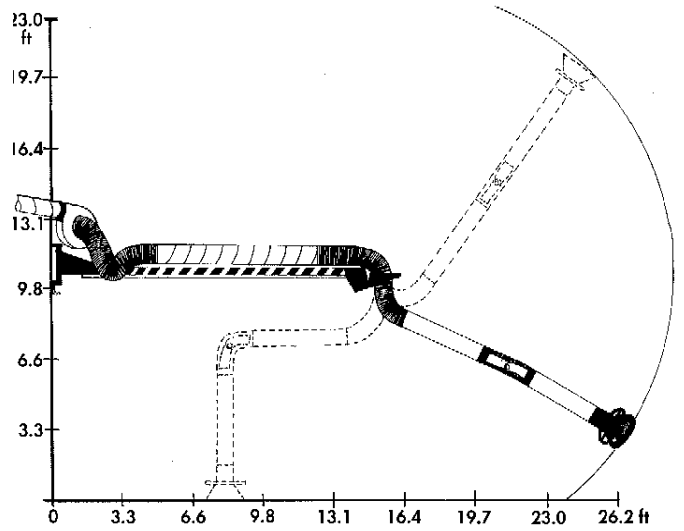
Flex-Max 2540



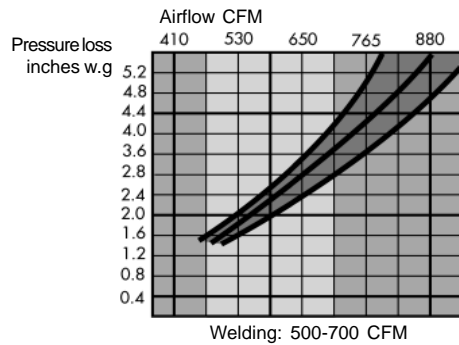
Flex-Max 3540.



Flex-Max 4540



Pressure loss

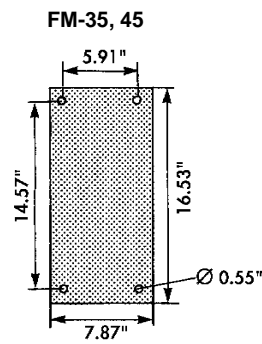
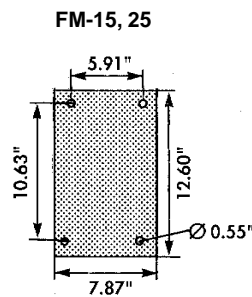


The pressure loss in PlymoVents Flex-Max is affected by:

- 1 . Air volume.
- 2 . With or without lamp cartridge in the hood.
- 3 . Position of the arm.
- 4 . Length of the arm.

Mounting Examples

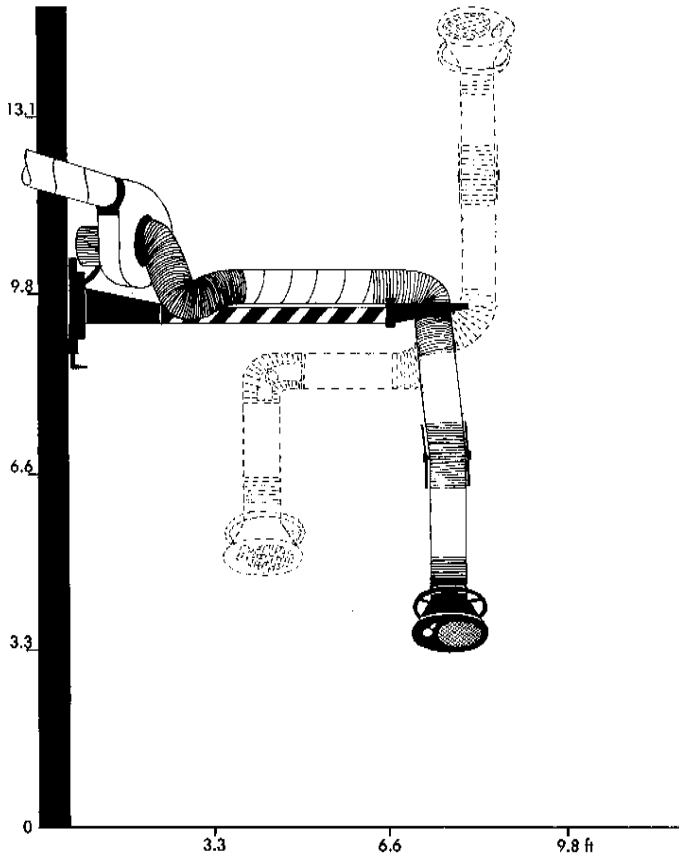
Mounting plates for Flex-Max



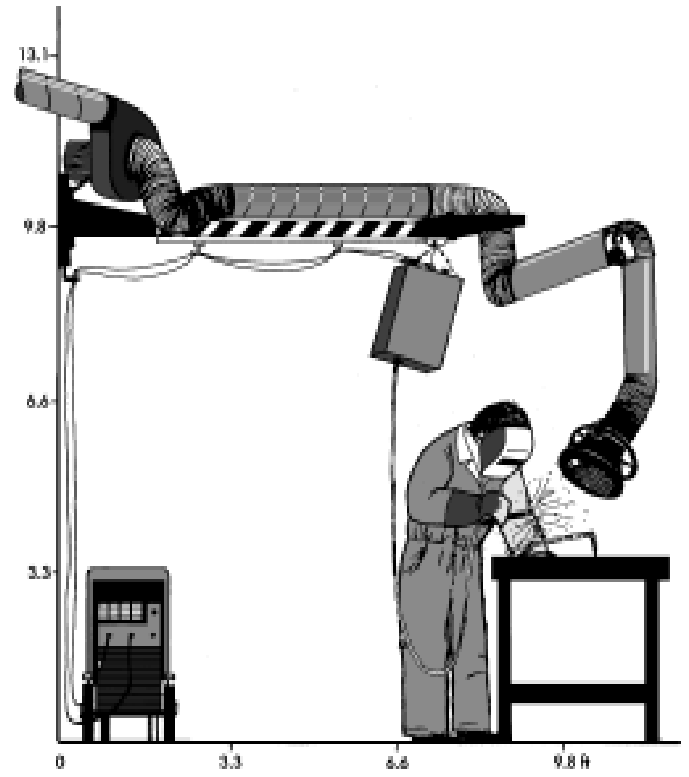
Recomended bolt

Prod. no:	Max. Load/Bolt	Safety demands
FM-1520, FM-1530	600 LB/Bolt	1980 LB/Bolt
FM-2520, FM-2530	1100 LB/Bolt	3300 LB/Bolt
FM-1540, FM-2540, FM-3520	1430 LB/Bolt	4290 LB/Bolt
FM-3530, FM-3540, FM-4520	1980 LB/Bolt	5940 LB/Bolt
FM-4530, FM-4540	1980 LB/Bolt	5940 LB/Bolt

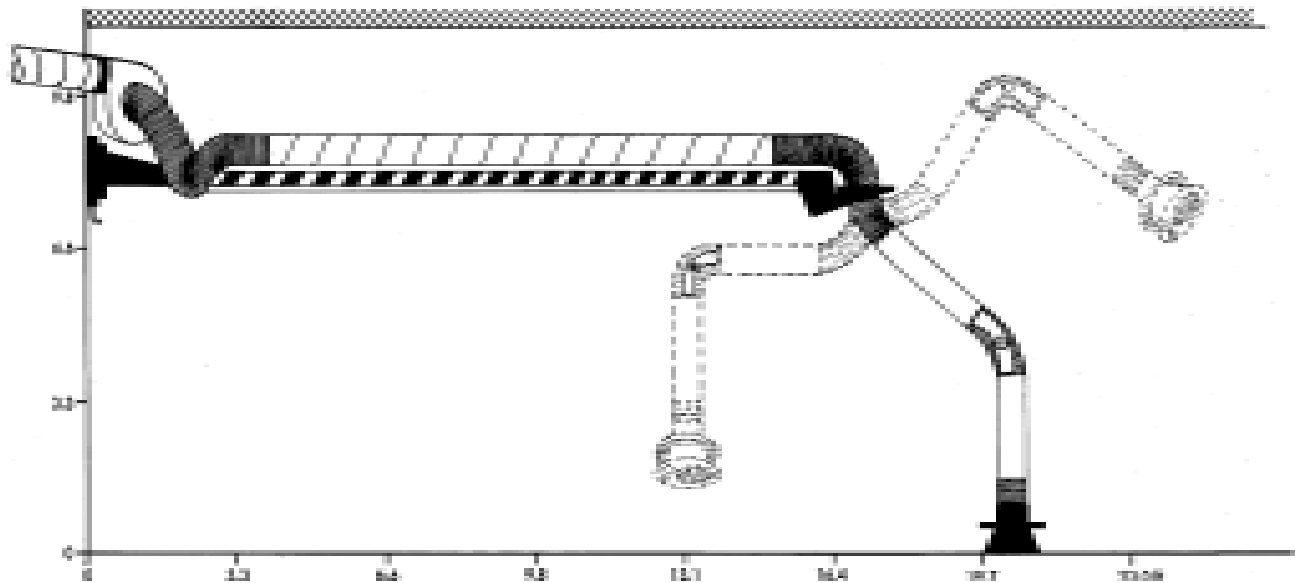
FM-1530 column mounted



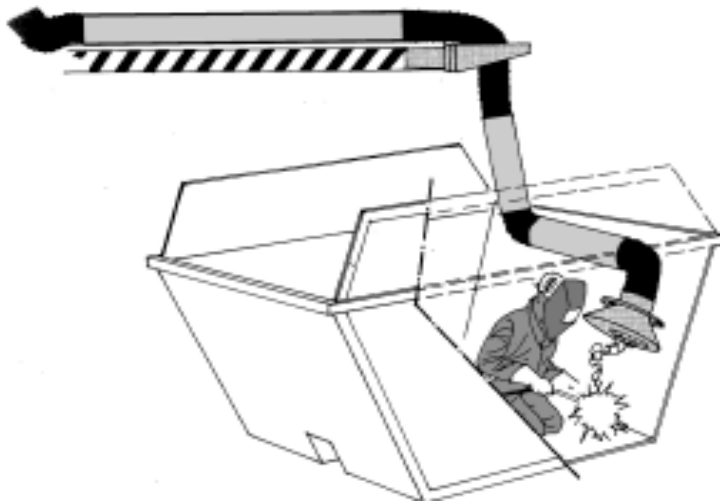
FM-2540 wall mounted. Wire feeder unit suspended from inner arm.



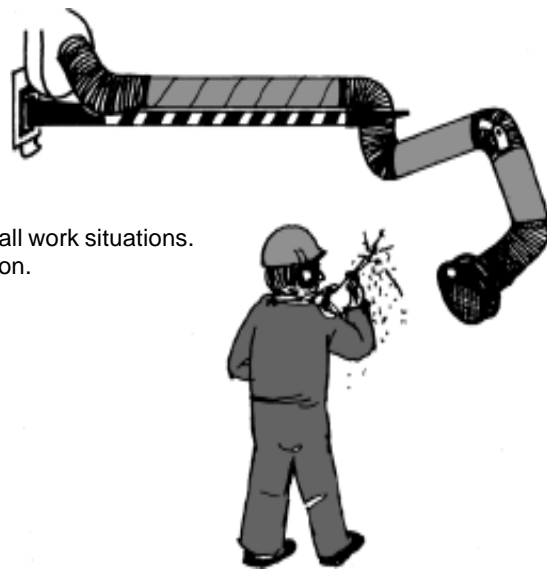
FM-4530 mounted in work shop with low ceiling with a seperate fan, model FUK.



Working Areas



Flex-Max can get into those awkward places like no other extractor.

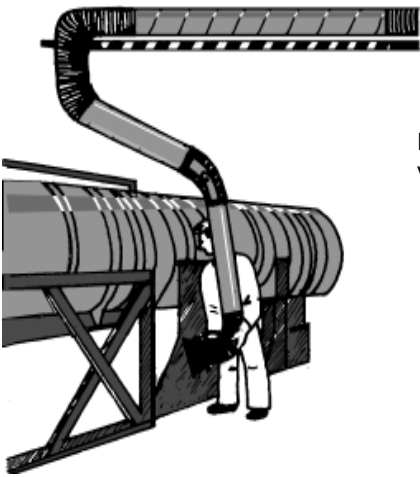


Flex-Max works in almost all work situations. Smooth and easy to position.



Flex-Max has a superb reach.

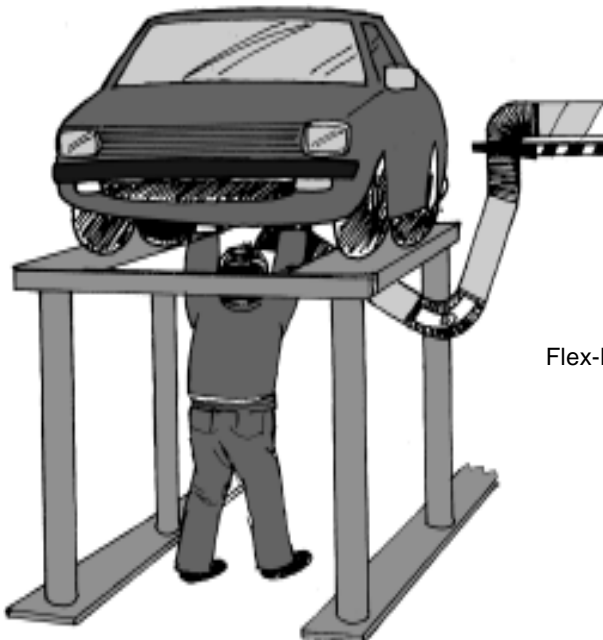
Working Areas



Flex-Max is ideal for large and varied work situations.



Flex-Max is also the solution to problems other than welding fume.



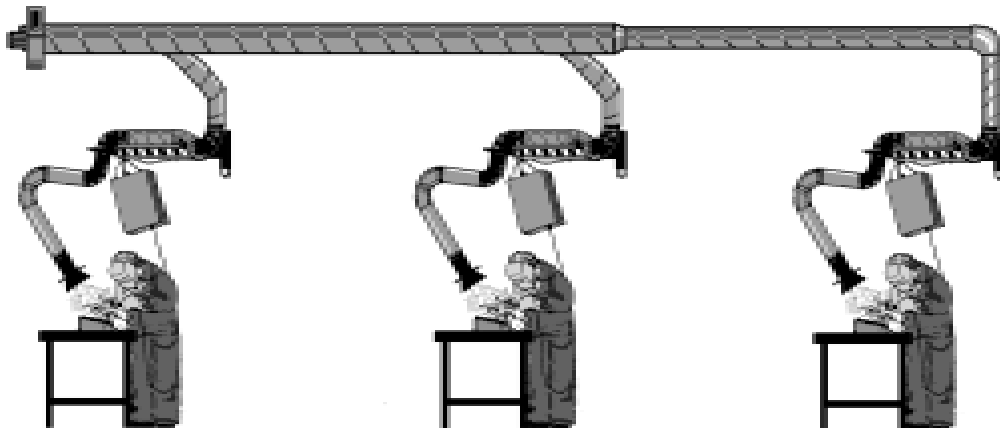
Flex-Max is unbeatable when working at difficult angles.



Diesel and gasoline fumes and smoke from burnt oil. Flex-Max is always there on hand. NOTE! Explosion proof fan and antistatic hose are required.

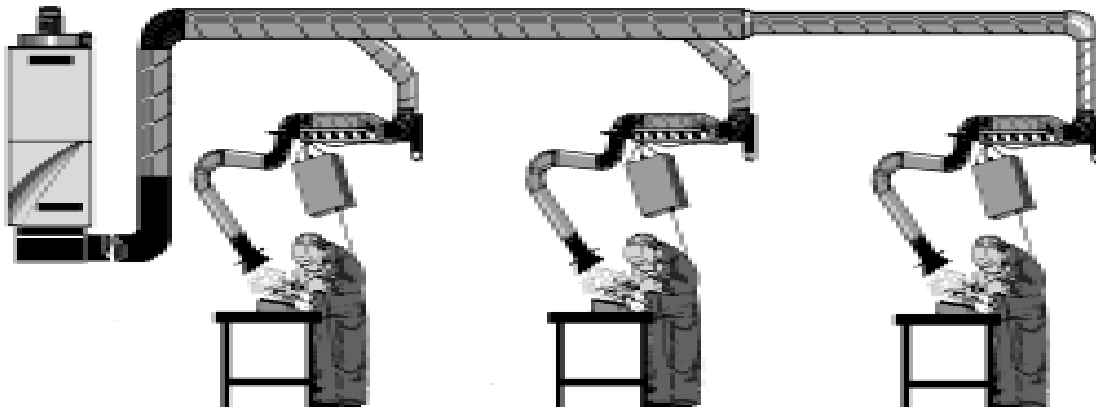
Alternative System Layouts

Alt. 1



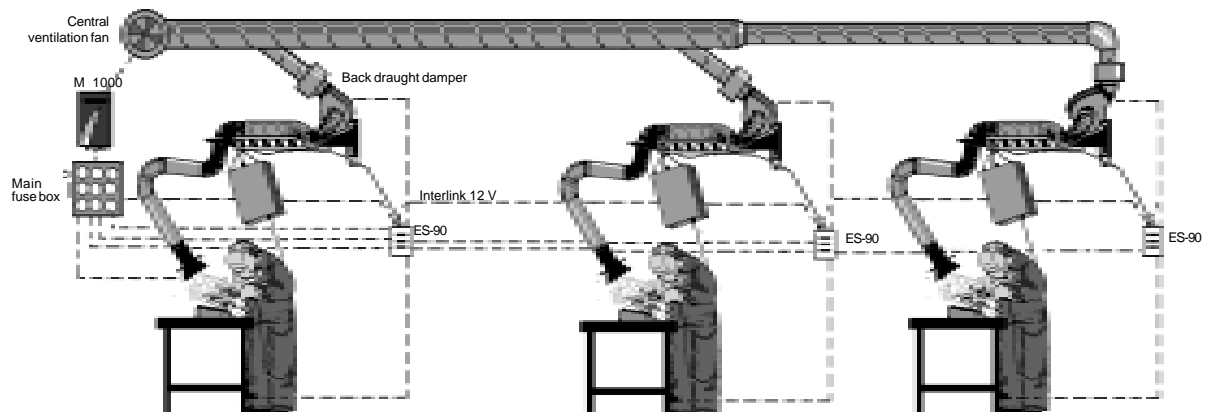
Central system: Fan 4700 with 3 X FM-1520

Alt. 2



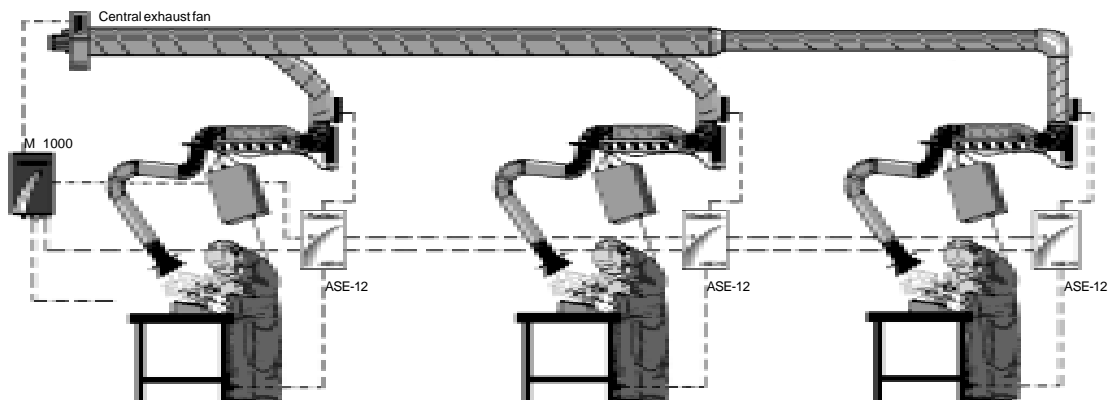
Central system : EF-5000, FUA-4700 and 3 X FM-1520

Alt. 3



Central system with low pressure fan, ES-90 and separate fans

Alt. 4

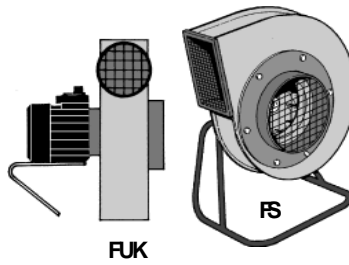


Central fan FS-3000 with 3 X FM-1520 equipped with ASE-12

Complementary Products and Accessories

Fans FUK

FUK-fans can be directly attached to the Flex-Max wall mounting bracket. These are available in two sizes with freeblowing capacities of 1060 and 1300 CFM. The unique anti-spark impeller made of aluminium gives maximum safety. For wall- or ceiling mounting, choose FS-1800 or FS-2100. In a system with more than one Flex-Max arm we recommend the use of the larger fans: FS-3000, FS-4700 or FA-6000.



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

Fan Prod. no:	Airflow CFM Freeblowing	Airflow CFM at the hood of the FM arm	Motor Hp, phase
FUK-1800	1060	1 FM = 440	0.75 Hp, 3 phase
FUK-2100	1300	1 FM = 590	1.0 Hp, 3 phase
FUK-2101	1300	1 FM = 590	1.0 Hp, 1 phase
FS-3000	2000	2 FM = 620 3 FM = 380	1.5 Hp, 3 phase
FS-4700	2840	3 FM = 590 4 FM = 380	3.0 Hp, 3 phase
FA-6000	3540	4 FM = 590 5 FM = 470	5.0 Hp, 3 phase

Control Unit

For automatic start or stop of a central fan in a system with several extractors. To be used in conjunction with the Energy Saver or Automatic Damper. Delay time interval: 15 sec.

Line supply: 1~ 115-575 VAC.

Prod. no: M-1000



Starter

For manual start/stop of the fan 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: 1~ 115-575 VAC.

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

Prod. no: SA-24/75-2 includes 75VA/24V transformer for two halogen lamps on two workstations.



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.

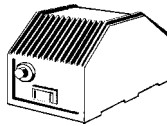
Prod. no: HL-20/24



Transformer

115/230V-24V/75W transformer for halogen lamp cartridge HL-20/24.

Prod. no: TR-24



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: 1~ 115-575 VAC. Also includes switch assembly (S-100) for manual control from the hood.

Prod. no: ASE-12



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 must be fitted with relevant fan-motor overload (not included). Line supply: 1~ 115-575 VAC.

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

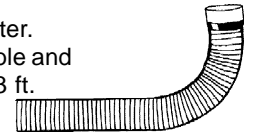
Prod. no: ES-90-006 Includes two sensor clamps and 75VA/24V transformer. For two arms with lights and one fan.



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 fiberglass 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 re-circulate the already heated air into the workshop. Huge energy savings. Also excellent for filtering oilmist. Are available in sizes up to 2943 CFM.

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



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





MOUNTING INSTRUCTION

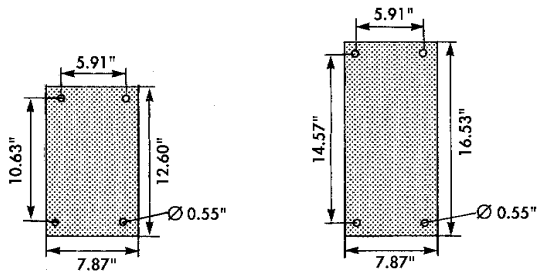
BSAB no: T0.31
 Ser.no: FM/MA
 Date: Sept-97
 Replace: Jan-95

FLEX-MAX

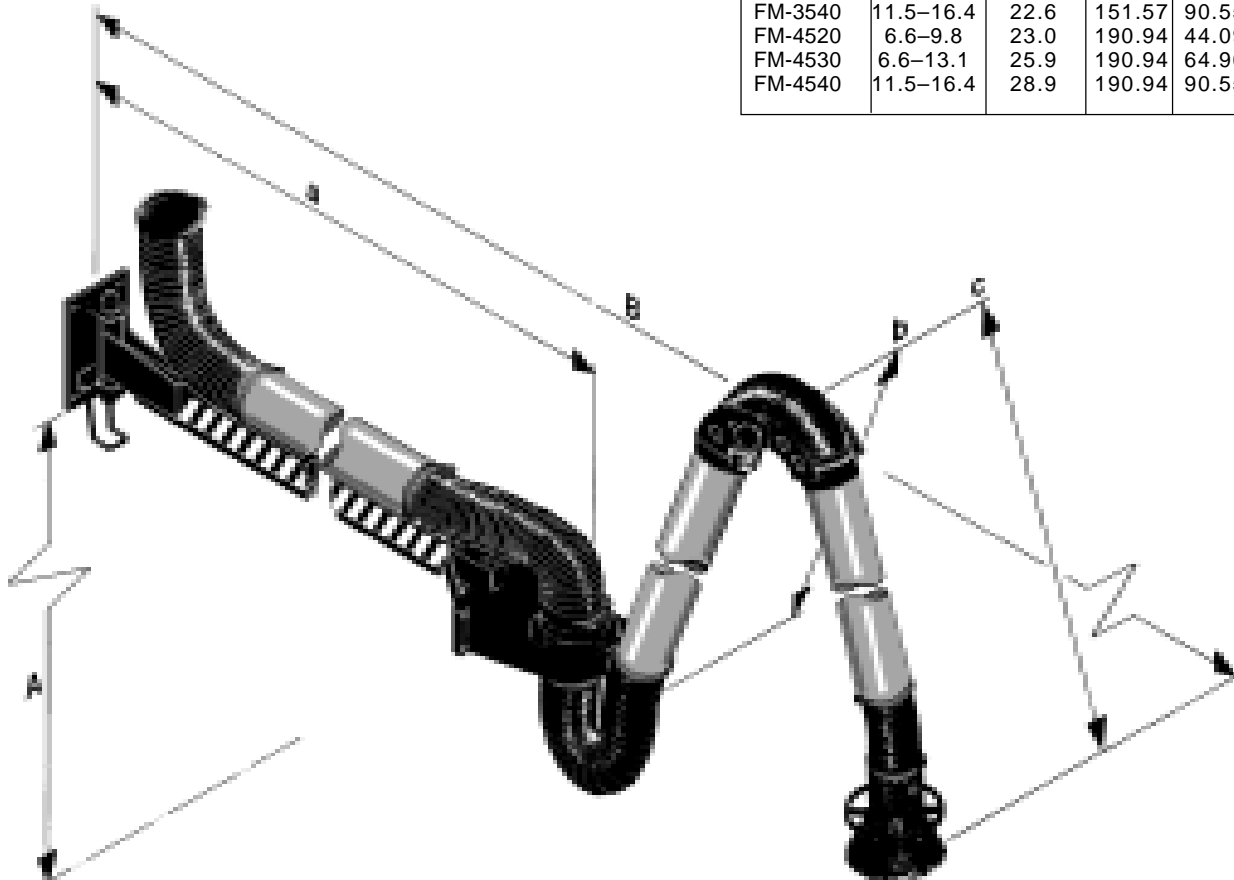
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Mounting plates for Flex-Max

FM-1520, 1530, 1540, 2520, 2530, 2540 FM-3520, 3530, 3540, 4520, 4530, 4540

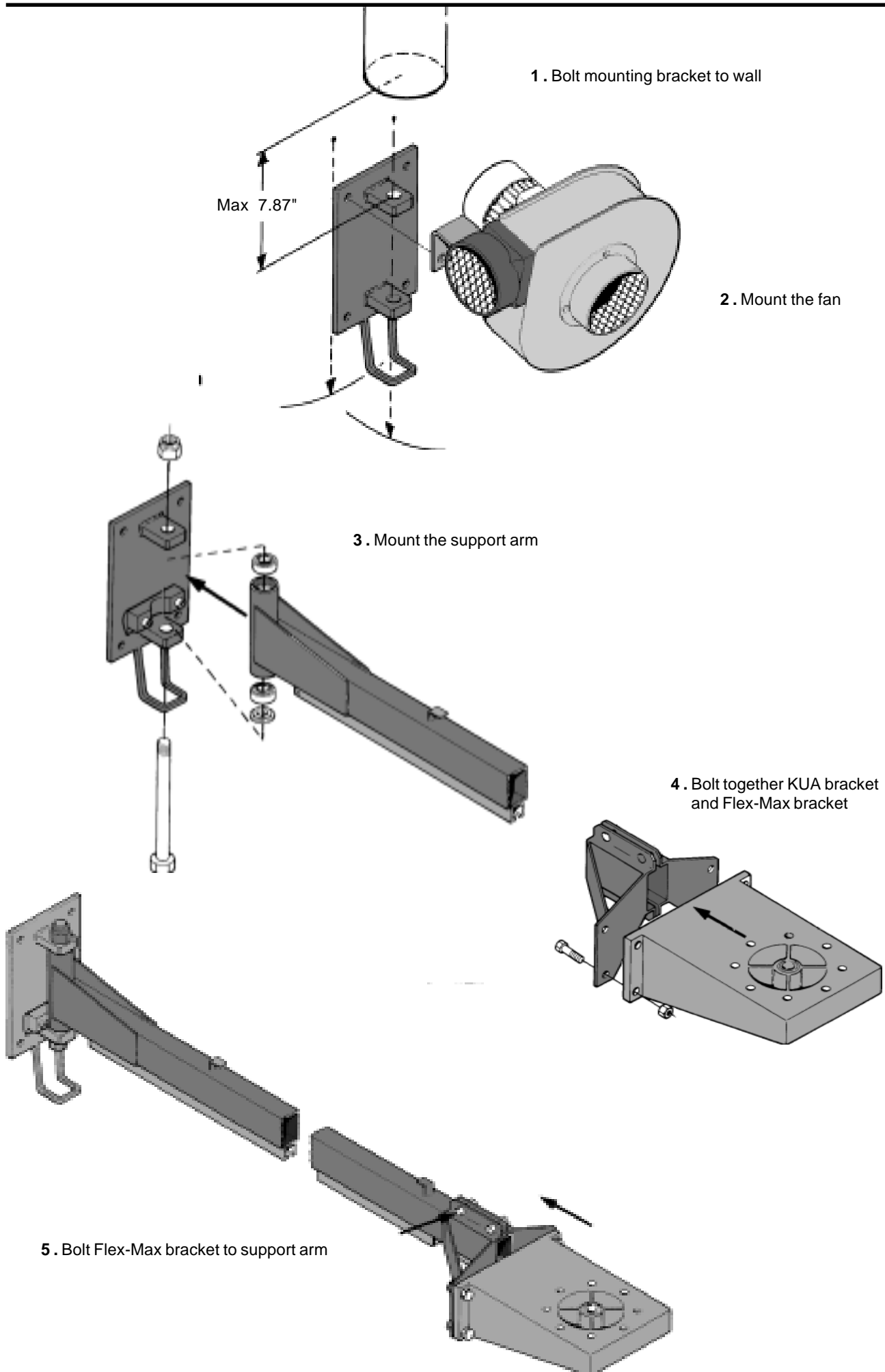


FLEX-MAX Prod. no:	A ft	B ft	a inches	b inches	c inches
FM-1520	6.6-9.8	13.1	72.83	44.09	42.13
FM-1530	6.6-13.1	16.1	72.83	64.96	59.84
FM-1540	11.5-16.4	19.0	72.83	90.55	73.62
FM-2520	6.6-9.8	16.4	112.20	44.09	42.13
FM-2530	6.6-13.1	19.4	112.20	64.96	59.84
FM-2540	11.5-16.4	22.3	112.20	90.55	73.62
FM-3520	6.6-9.8	19.7	151.57	44.09	42.13
FM-3530	6.6-13.1	22.6	151.57	64.96	59.84
FM-3540	11.5-16.4	22.6	151.57	90.55	73.62
FM-4520	6.6-9.8	23.0	190.94	44.09	42.13
FM-4530	6.6-13.1	25.9	190.94	64.96	59.84
FM-4540	11.5-16.4	28.9	190.94	90.55	73.62

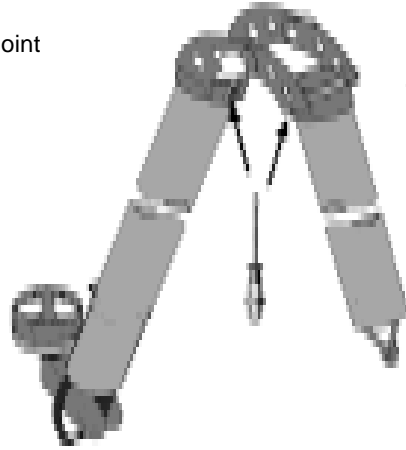


Prod. no:	Max. load/Bolt	Safety requirement
FM-1520, FM-1530	660 LB/Bolt	1980 LB/Bolt
FM-2520, FM-2530	1100 LB/Bolt	3300 LB/Bolt
FM-1540, FM-2540, FM-3520	1430 LB/Bolt	4290 LB/Bolt
FM-3530, FM-3540, FM-4520	1980 LB/Bolt	5940 LB/Bolt
FM-4530, FM-4540	1980 LB/Bolt	5940 LB/Bolt

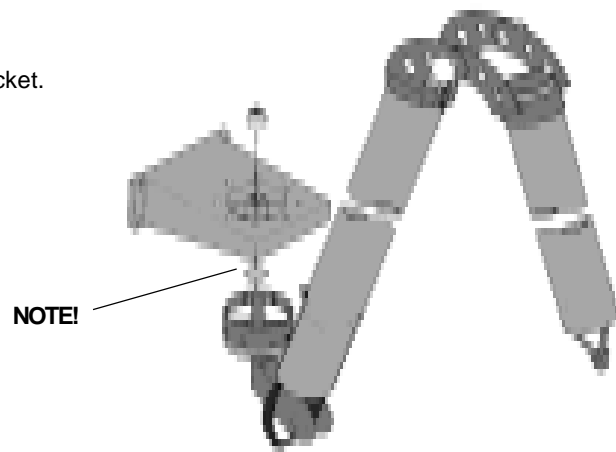
Mounting instructions



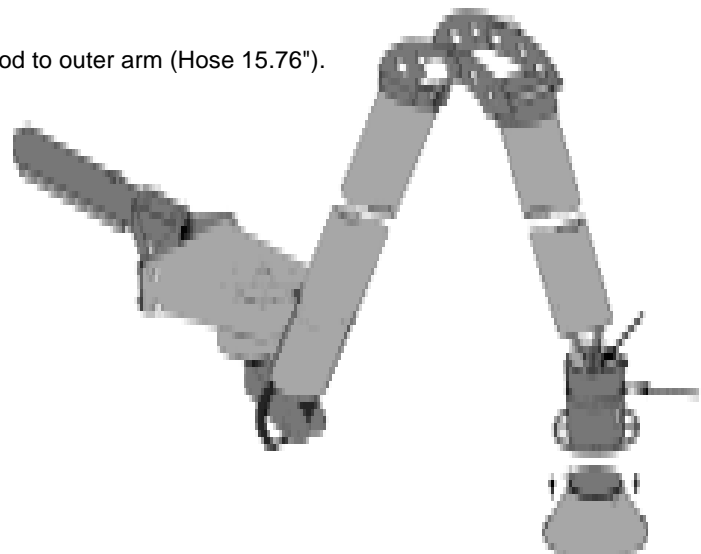
6. Attach inner arm to outer arm by means of hinged joint and fit rubber collar to inner arm.



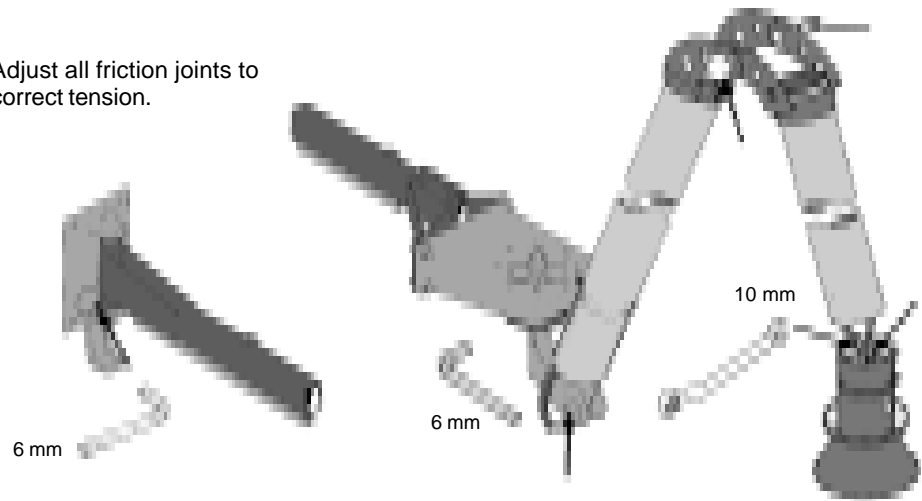
7. Mount arm to wall mounting bracket.
NOTE! THE WASHER.



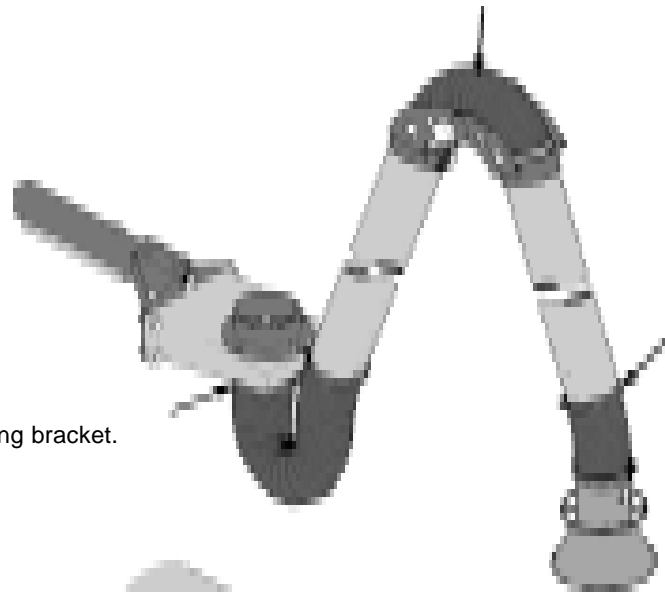
8. Fit hose, hose clamps, hood collar and hood to outer arm (Hose 15.76").



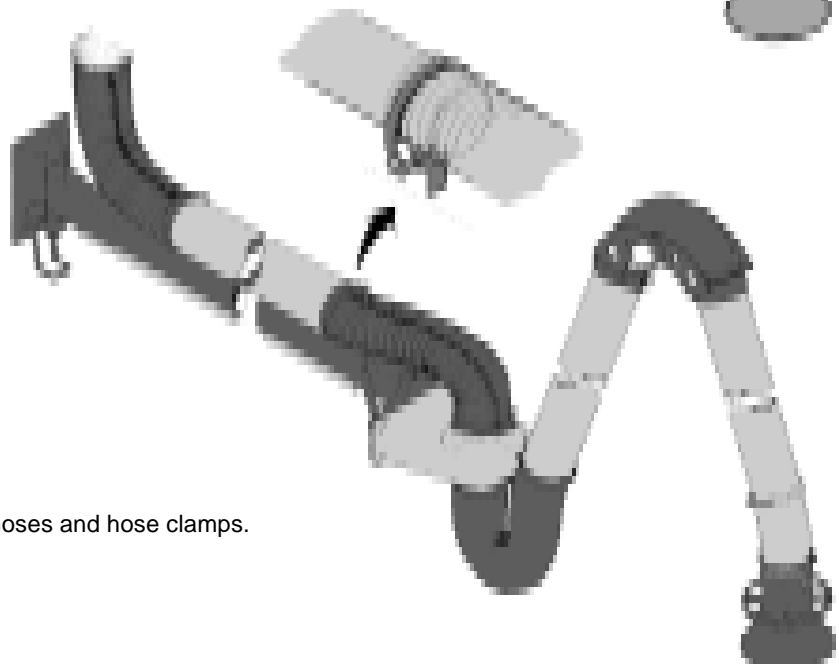
9. Adjust all friction joints to correct tension.



10. Fit hoses and hose clamps (Hose 25.59").



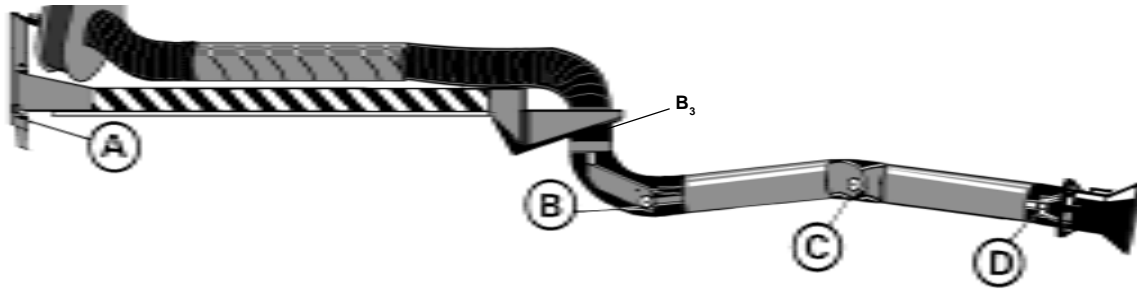
11. Fit spigot to mounting bracket.



12. Fit rigid ductings, hoses and hose clamps.

FLEX-MAX

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

Tighten the brakes in the two joints with an allen-key. Check once every six months.



B. If the arm does not stay in the required position:

1. Loosen the hose at B.
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.
3. If the arm is difficult to move sideways or moves on its own sideways, then adjustments must be made to the friction collar in the wallmounting bracket. This is done by either loosening or tightening the Allen screw.

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

1. Angle the outer arm horizontally. Loosen the friction brake until the arm drops towards the floor. Tighten until it no longer drops.

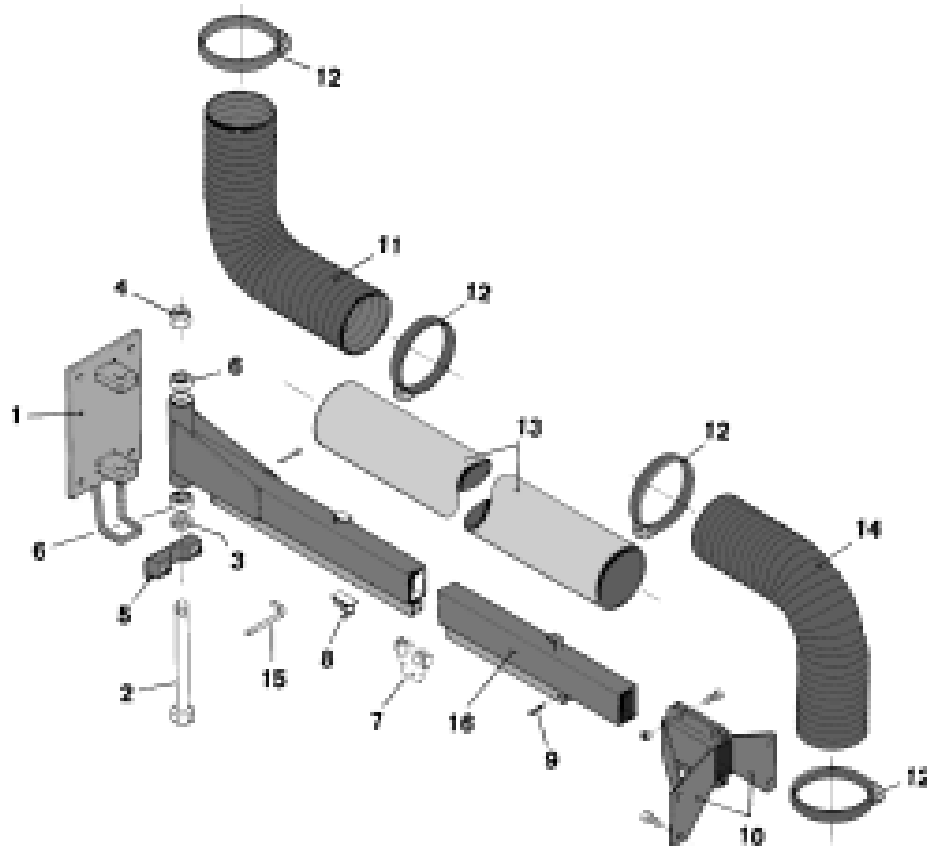
D. If the hood will not stay in the required position:

1. Loosen the hose at D.
2. Adjust the friction (see picture) until the hood will stay in the exact position.

FLEX-MAX

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SUPPORT ARM, HOSE/SPIRAL TUBING, EXTRACTION ARM





SPARE PARTS LIST

BSAB No: T3.1
 Ser. No: FM / RR
 Date: Jan-01
 Replace:

FM-15, -25, 35, -45

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Produkt No:	Description
A	All models
B	FM-15
C	FM-25
D	FM-35
E	FM-45
F	
G	

Abbreviations

X = Order as required, state required length.

Pos	Art. No:	A	B	C	D	E	F	G	Description	Note
1	503 581		1	1					MOUNTING PLATE SMALL	
	503 359				1	1			MOUNTING PLATE BIG PAINT	
2	500 868		1	1					I-ARM AXLE D.20MM /PART	
	503 458				1	1			I-ARM AXLE 25MM /PART	
3	503 631		1	1					SPACE WASHER INNER	
	503 557				1	1			SPACE WASHER INNER	
4	957 969		1	1					NUT/ M20	
	958 256				1	1			NUT/ M24	
5	503623-Z		1	1					INNER BRAKE SMALL	
	503565-Z				1	1			INNER BRAKE BIG	
6	963 009		2	2					BALL BEARINGS KUA LM-2 SMALL	
	963 017				2	2			BALL BEARINGS BIG UK & FM	
7	508 440	1							SET ACCESSORIES C-/PART	
9	978 932	X							PLYMOVENT HAZARD STRIPE 75MM	
10	508671-Z		1	1					FLEX-MAX BRKT. FM-80/PART	
	508697-Z				1	1			FLEX-MAX BRKT. FM-100/PART	
11	977 652	1							LABEL 160X50 " MAX 50 KG"	
12	961 466	4							HOSE CLAMP SMS-168 BLACK	
13	979 229,1		1						Ø160 TUBE L-300	
	979 252,1			1					Ø160 TUBE L-1300	
	979 302,1				1				Ø160 TUBE L-2300	
	979 328,1					1			Ø160 TUBE L-3300	
14	998 393	2							FLEXIBLE HOSE L=1,3M Ø 165MM	
16	503 763,1		1						INNER BOOM ARM 1,5M/PART	
	503 847,1			1					INNER BOOM ARM 2,5M/PART	
	503 862,1				1				INNER BOOM ARM 3,5M/PART	
	503 896,1					1			INNER BOOM ARM 4,5M/PART	

When ordering spare parts please quote:

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

For example:

MSA-125, 00040, Handle, 526574, 1 pc