Product Manual MULTISMART**ARM-

Table of	contents:	page

Technical description		
Advantages		
Technical data	. 2	
Design and function		
Handling		
Hood operation		
Mounting example		
Working radius		
Pressure loss		
Alternative system layouts		
Complementary products and accessories		
Mounting instruction		
Maintenance instruction		
Spare part drawing		

PLYMOVENT_

Thank you for buying a PlymoVent product.

Before you unpack and put it into operation please read this product manual and follow the instructions.

THIS MANUAL SHOULD BE HANDED OVER AND KEPT BY THE SERVICE DEPARTMENT AFTER THE INSTALLATION!

PlymoVent Canada Inc. 6615 Ordan Drive, Unit # 3 Mississauga, Ontario L5T 1X2, Canada Tel: +1 (905) 564 4748 Fax: +1 (905) 564 4609



PlymoVent Corp. 375 Raritan Center Parkway, Edison New Jersey 08837, USA Tel: +1 (732) 417 0808 Fax: +1 (732) 417 1818



TECHNICAL DESCRIPTION

BSAB no: T0.31 Ser.no: MSA/TB Date: Aug-98 Replace:

MultiSmart® Arm

© Copyright: All right reserved. All information within this printed matter may not be reproduced, handed over, copied, xeroxed or translated into another language, in any form or any means without written permission from PlymoVent AB. PlymoVent AB reserves the right to make design changes.

MultiSmart® Arm

The PlymoVent "MultiSmart® Arm" extraction arm is a very flexible and efficient extractor for dust, welding fumes, soldering fumes, oilmist, fumes from solvents etc. The outer and inner tubes are coupled by a gas spring balanced paralellogram arm for which we have a patent application. The construction allows a stepless positioning within the

operating range. The MultiSmart® Arm has an extremely smooth movement. The MultiSmart® Arm reaches high above its mounting height and is manoeuvrable through 190 - 230° depending on length. Both inner and outer tubes 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. As an option there is a shut-off damper on the outer tube with a rubber sealing lip to minimize the noise level when the damper is shut. The shut-of damper control knob has several distinct positions which makes it possible to fine tune the airflow through the arm.



 CLEAR-THRU design- all components on the outside of the tubes, resulting in less pressure drop.

Supplied assembled - thus redusing installation time and cost.

 Gas springs which balance the arm in any position - giving very smooth movement caracteristics.

 Easy flexible hose removal - allowing easier cleaning or hose replacement.

Three different dimensions; Ø 125, Ø 160, Ø 200 mm (5"Ø, 6"Ø and 8"Ø) and two lengths 3 and 4 m (10' and 14') - for all needs.

Safety encased paralellogram arm - eliminates possible injury.

 Rubber sealed damper with accurate damper control (accessory). Less noise when the damper is shut and stays in position at any airflow.



Delivery

The arm is delivered completely assembled. To accomplish a variety of mounting solutions it can be combined with stanchions PA-110 or PA-220.

Technical data

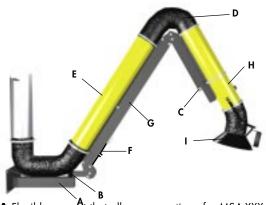
MultiSmart® Arm
The MSA-XXX-3 can be changed to a MSA-XXX-4 by
adding a SAE-XXX-4 extension kit.



MultiSmart®	Δ rm	WZYXXX3	MultiSmart®	Δ rm	MSA-XXX-1
Multismart	Arm	MOA-VVV-	Multismart	Arm	M3A-4

Prod. no.	Max. working radius* m, ft	Hose diameter mm, in	Rec. airflow m³/h, CFM
MSA-125-3	3, 10' 3, 10' 3, 10' 4, 14' 4, 14' 3, 10' 3, 10' 4, 14' 4, 14'	125, 5"	400 - 700, 240 - 410
MSA-160-3		160, 6"	800 - 1400, 470 - 820
MSA-200-3		200, 8"	1300 - 2000, 770 - 1180
MSA-125-4		125, 5"	400 - 700, 240 - 410
MSA-160-4		160, 6"	800 - 1400, 470 - 820
MSA-200-4		200, 8"	1300 - 2000, 770 - 1180
MSAS-125-3		125, 5"	400 - 700, 240 - 410
MSAS-160-3		160, 6"	800 - 1400, 470 - 820
MSAS-125-4		125, 5"	400 - 700, 240 - 410
MSAS-160-4		160, 6"	800 - 1400, 470 - 820

Design and function



- A.Flexible support that allows convertion of a MSA-XXX-3 to a MSA-XXX-4
- B. Ball-bearing link for the horizontal movements.
- C. Spring washers in all joints.
- D. Flame resistant hose made from PVC coated woven polyamide with internal steel spiral.
- **E.** Aluminium inner arm tube.
- **F.** Adjusting mechanism for gas spring tension.
- G. A patent pending paralellogram arm with gas springs for perfect balance and easy movement.
- H. Aluminium outer arm tube, with the ability to add a damper as an accessory.
- 1. Hood, constructed from spun sheet metal, including safety mesh.

Handling

- 1 Hand grip for the hood/arm.
- 2 Easy-to reach external support mechanism.
- 3 Switch for halogene lamp cartridge; see accessories HL-20/24-125, -160 or -200 depending on the arm diameter.
- Switch for manual start/stop of fan or damper; see accessories SA-24, ES-90 or ASE-12.



Hood operation

The black, powder coated metal hood can be angled 65° to the side, 75° forwards and 120° backwards.





Mounting example MultiSmart® Arm MultiSmart® Arm with stanchion PA-110 or PA-220

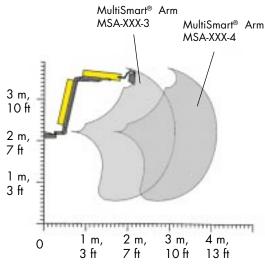


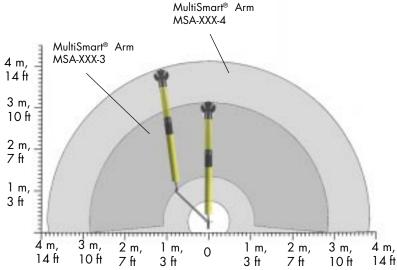




The MultiSmart® Arm can be mounted at a lower height without affecting the arms reach.

Working radius MultiSmart® Arm

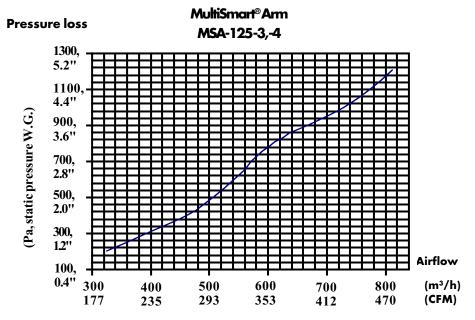


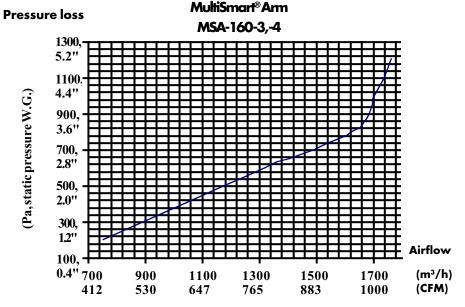


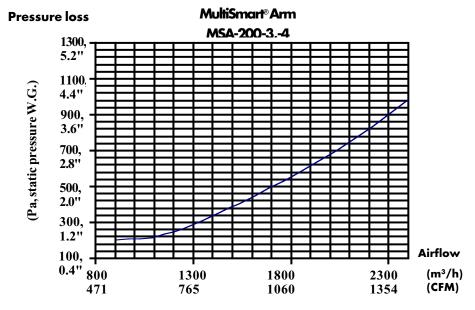
The pressure loss charts below shows the average pressure loss through the MultiSmart®Arm

The following aspects affect the pressure loss in the MultiSmart®Arm: 1. The diameter of the arm; Ø 125(5"), Ø 160(6") and Ø 200 mm(8") 2. The air volume sucked through the arm.

- **3.** Number of bends in the arm and the sharpness of the bends.







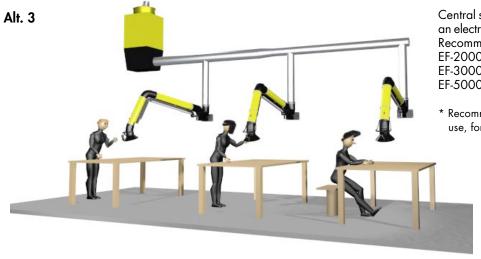


MultiSmart® Arm on a PA-220 connected to ducting.

Central system: 3 x MultiSmart® Arm with one fan FS-4700. Recommended fan per no. of arms:

FS-3000: 2-3 arms* FS-4700: 3-4 arms* FA-6000: 4-5 arms*

* Recommendation for Ø 160 mm, for other diameters contact PlymoVent.



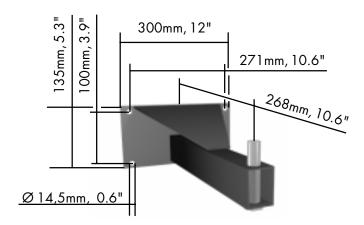
Central system: 3 st MultiSmart® Arm connected to an electrostatic filter EF-3000.

Recommended filter per no. of arms:

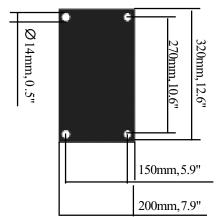
EF-2000: 1-2 arms.* EF-3000: 1-3 arms.* EF-5000: 2-5 arms.*

* Recommendation for Ø 160 mm and continuous use, for other diameters contact PlymoVent.

Dimensions for wallmount MSA-xxx-3 and MSA-xxx-4



Dimensions for mounting plate PA-110, 220



Complementary products and accessories

Fans FS and FA

Available in many sizes with free blowing air volumes from 1300 m³/h, 765 CFM to 6000 m³/h, 3532 CFM. A unique anti-spark impeller made from aluminium gives maximum security.



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

1301	1300, 765	0,37 kW 1~ 230 V*
1800	1800, 1059	0,55 kW 3~ 400 V*
2100	2100, 1236	0,75 kW 3~ 400 V*
2101	2100, 1236	0,75 kW 1~ 230 V*
3000	3000, 1766	1,10 kW 3~ 400 V*
4700	4700, 2766	2,20 kW 3~ 400 V*

Airflow

Freeblowing

m³/h, CFM

1300, 765

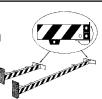
6000, 3532

Stanchion

Accessory for ceiling, floor or wall mounting of MultiSmart® Arm.

Length: 110 cm, 3.6 ft. Prod. no PA-110

Length: 220 cm, 7.2 ft. **Prod. no PA-220**



Halogen lamp cartridge

To be fitted in the hood. Consists of 20W/ 24 V halogen lap, switch assembly and 10 m, (33 ft) cable. Must be complemented with transformer TR-24 or Starter SA-24.

Prod. no HL-20/24-125

Prod. no HL-20/24-160 Prod. no HL-20/24-200

* Not available in MSAS

Transformer

230 $V^* - 24V/75$ VA transformer for halogen lamp cartridge HL-20/24.

Prod. no TR-24/75

Other voltages are available



Fully automatic damper

Fully automatic motordriven damper for fitting to Ø 160 mm, 6" Ø duct. Adjustable overrun period between 7 sec. and 6 min., to capture after-fume. Inductive sensor Paradian. with 5 m (16 ft) of cable is included as standard. Power supply: 1~ 230 V*. Can be complemented with switch assembly (S-100) for manual control.

Prod. no ASE-12

Other voltages are available

Energy Saver

For automatic start/stop of fan. Adjustable overrun period of between 7 sec. to 6 min. Incl. inductive sensor with 5 m, (16 ft) cable. Built-in contactor must be fitted with relevant fan-motor overload (not included). Power supply: 3~"230/400 V*.

Prod. no ES-90-005 incl. 75 VA/24 V transformer for hood light.

Prod. no ES-90-006 incl. 75 VA/24 V transformer. For two arms with lights.

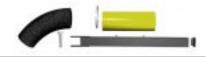
Other voltages are available



Contains all neccesseary items to convert a 3 meter, (10 ft) arm to a 4 meter, (14 ft) arm.

Prod. no SAE-125-4 Prod. no SAE-160-4

Prod. no SAE-200-4



Motor

kW V

(50Hz)

0,37 kW 3~ 400 V*

4,00 kW 3~400 V*

Damper kit

Fan

1300

6000

Contains all necceseary items to install a ratchet damper for fine tuning the airflow through the arm.

Prod. no D-125 Prod. no D-160 Prod. no D-200

Is not available in MSAS



Switch assembly

Switch assembly with 10 m(10 ft) cable for manual operation from the hood of fan and light. Also supplied as standard as part of ES-90 and ASE-12. Inkl.

Prod. no S-100

Control unit

For automatic start/stop of a central fan in a system with several extractors. To be used in conjuction with the Energy Saver or Automatic Damper. Power supply: 3~ 230/400 V*.

Prod. no M-1000

* Other voltages are available

Physioletics'

For manual start/stop of the fan via a switch in the hood. Complete with switch assembly and 10 m, (33 ft) cable. Built-in contactor must be fitted with relevant fan motor overload (not included). Power supply: 3~ 230/400 V*.

Prod. no SA-24/75 incl. 75 VA/24 V transformer for halogene lamp on one workstation. **Prod. no SA-24/75-2** incl. 75 VA/24 V transformer for two halogene lamps on two workstations.

Other voltages are available

^{*} Other voltages and frequences for motors are available.

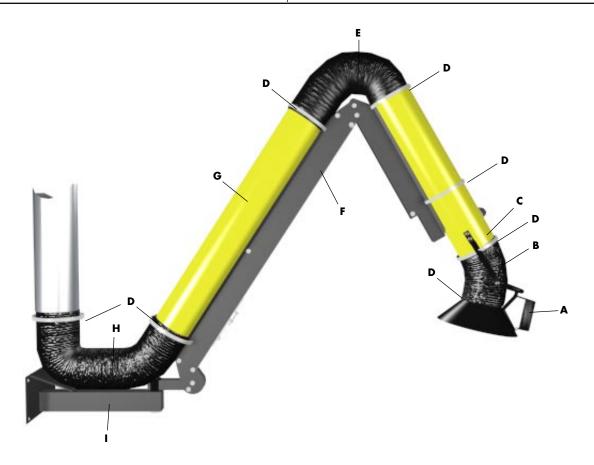


MOUNTING INSTRUCTION

BSAB no: T0.31 Ser.no: MSA/MA Date: May-00 Replace:Aug-98

MultiSmart® Arm

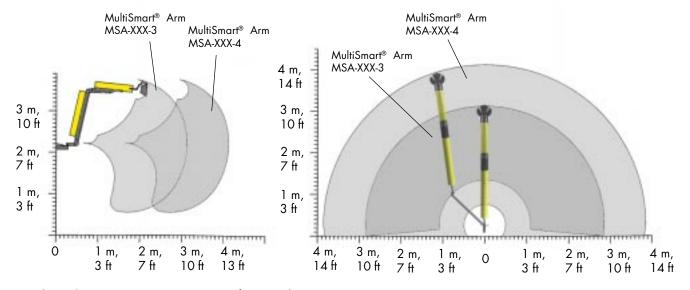
© Copyright: All right reserved.All information within this printed matter may not be reproduced, handed over,copied,xeroxed or translated into another language,in any form or any means without written permission from PlymoVent AB. PlymoVent AB reserves the right to make design changes.



Pos. no.	DESCRIPTION							
Α	Hood with handle and bracket							
В	Hose, connecting hood and outer arm tube							
С	Outer arm tube with damper mounting ability							
D	Hose clamps							
Е	Hose connecting inner and outer arm tube							
F	Paralellogram chassie							
G	Inner arm tube							
Н	Hose for connecting arm to ducting or fan							
Ι	Wall bracket							

Mounting instruction

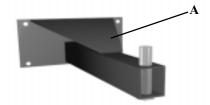
1. Decide where to position the wall bracket using the pictures on the next side. These show the operating range of the MultiSmart® Arm .



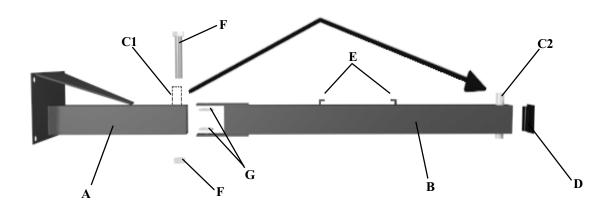
The MultiSmartArm's operating range from a side view. The picture shows the wall bracket mounted on the highest recommended height (2,2 m). The lowest recommended height is 1,1 m. All height measures refers to the wall bracket's upper side.

The MultiSmartArm's operating range from a top view. The wall bracket is to be placed in such a way that the place of work is within the shaded area.

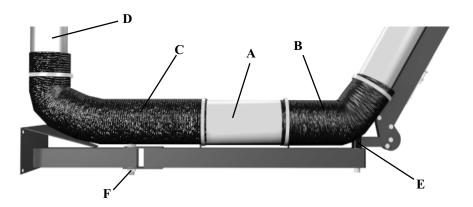
2. Fit the wall bracket(A) directly against the wall or on a stanchion PA-110 or PA-220. If the bracket is fitted directly to the wall, make sure that the structure of the wall is strong enough.



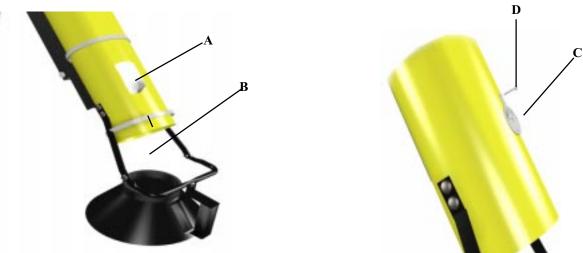
- **3.** If you have purchased a MSA-XXX-3 you can skip to step no.5. If you have purchased a MSA-XXX-4 or a SAE-XXX-4 please continue to following the step by step instructions.
- 4. Place the endcap(D) at the end of the extension piece(B). Remove the axle, washers and nut(C1) from the wall bracket(A), and remount those parts in the same order on the extention piece(C2). The small L-shaped "tube keepers" (E) and the longer part of the axle should face up. Attach the extention piece to the wall bracket with the supplied nut and bolt (F), placing one of the fiber washers(G) on each side of the wall bracket.



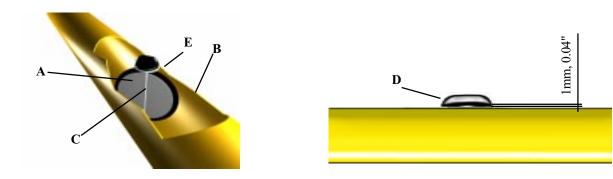
- 5. Place the arm on the axle. Place the tube(A), supplied with the extention kit on the tube-holders. Attach the hose from the arm(B) and the hose for connecting the arm to a duct/fan(C) with hose clamps. The clamps should go underneath the tube-holders thus keeping both tube and hose in place. If you have a MSA -XXX-3 you just put the arm on the axle.
- 6. Connect the arm to the ducting(D) and adjust the friction in the outer joint(E), by turning the allen screw. Adjust inner joint(f) by means of tightening /loosening the bolt, to a suitable level of friction. You are now ready to put the arm into service.



- 7. If you have purchased a damper kit D-XXX and wish to install it, please continue to follow the steps below. If you have purchased a halogen lamp cartridge HL-20/24-XXX and want to install it you can go to step no.11
- **8.** Remove the stickers covering the mounting holes(**A**) for the damper and the hose between the hood and the outer tube(B) and mount the "ratchet"(**C**) to the top of the tube using the supplied pop-rivet(**D**).



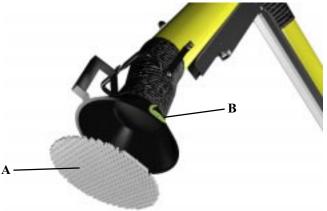
9. Place damper blade(A) inside outer tube(B) Put the ball cassette inside the hole in the pointy part of the damper turning knob(D) and insert the damper shaft(C) from the top side of the tube thru the damper blade, you may have to tapp it in place with a hammer. Align the knob with the damper blade in sutch a way that knob is pointing along the tube when the damper is fully open (E) secure damper blade to the shaft with the supplied "grabber screw". Correct position of the turning knob is when there are approximately 1 mm, 0.04" between the damper ratchet and knob. Assemble in order the ponge rubber washer, spring vasher and star-lock vasher at the damper shaft.



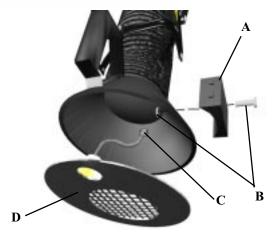
10. Reattach the hose between hood and outer tube. You have now completed the installation of the damper kit.

11. If you have purchased a halogen lamp cartridge (HL-20/24-XXX), please continue to follow the step by step instructions.

12. Remove the mesh(**A**) from inside of the hood. The most efficient way to do this is to grab the mesh with a set of pliers and pull it straight out. Also remove the sticker covering the accessory holes on the hood(**B**).



13. Screw the switch assembly(A) to the hood with the supplied nut and bolt(B). Push the plug that is attached to the lamp cartridge(C), from the inside of the hood through the rectangular hole. Fit light cartridge(D) inside of hood. Connect the plug from the switch assembly to the plug from the light cartridge. Excess of cable between switch assembly and light cartridge can be stuffed back into the switch assembly housing.



14. Secure the power supply cable to the arm using two of the supplied plastic fasteners(A). While doing this make sure that the length of cable between the tube and hood(B) is long enough not to obstruct the movement of the hood. Attach the rest of the cable to the arm with the remaining plastic fasteners and the self adhesive anchors. You have now completed the installation of the halogen lamp kit.



MAINTENANCE INSTRUCTION

BSAB no: T0.31 Ser. no: MSA/DS Date: Aug-98 Replace:

MultiSmart® Arm

© Copyright: All right reserved.All information within this printed matter may not be reproduced, handed over,copied,xeroxed or translated into another language,in any form or any means without written permission from PlymoVent AB. PlymoVent AB reserves the right to make design changes.



A. If the inner arm seems to be too weak or too strong:

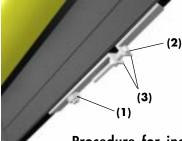
- Check that the arm is correctly assembled on the outer part of the wall bracket according to the description on the next page. Also check that the wall bracket is level.
- 2. Check and adjust the friction joints marked **A** on the figure. The moment in the friction joints is "right" when the elastic washers below screw and nut have just been drawn flat.
- If the inner arm after the adjustments above still feels weak adjust the prestressing of the gas spring. Procedure according to picture.

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

- Check that the arm is correctly assembled on the outer part of the wall bracket according to the description on the next page. Also check that the wall bracket is level.
- 2. Check and adjust the friction joints marked **B** on the figure. The moment in the friction joints is "right" when the elastic washers below screw and nut have just been drawn flat.

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

1. Adjust the friction(see picture) until the hood will stay in the exact position.

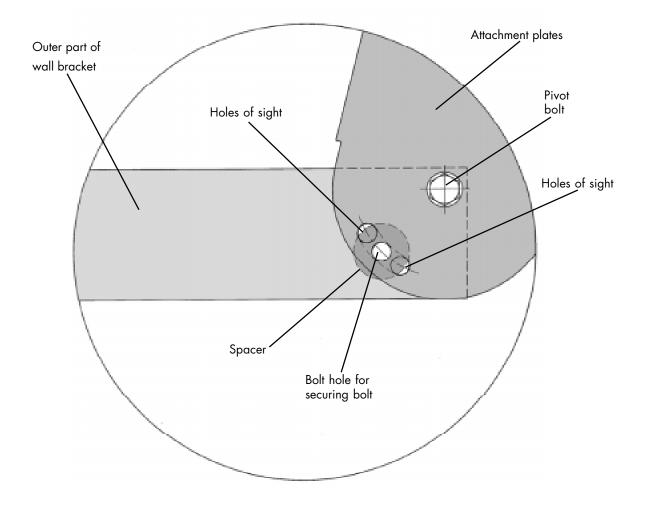


Procedure for increasing the spring power of the inner arm:

- Loosen the nut (1 in figure) 1/2 turn, no more and no less.
- 2. Tighten screw (2 in figure) until required spring power is achieved. Springpower will increase when the distance between the angle sheets(3) decreases.
- 3. Tighten the nut(1 in figure) again.
- 4. Tighten screw(2) 1/8 turn to secure it.



The relationship between the outer part of wall bracket and the attachment plates for the arm is correct when the three "holes of sight" fits exactly linedup (centre) with the "banana formed" hole in outer part of the wallmount. This is very important for the characteristic of the arm's movement! If the arm is mounted high this joint can be adjusted forward, if it is mounted low do the opposite. Note! before adjusting contact PlymoVent technical support



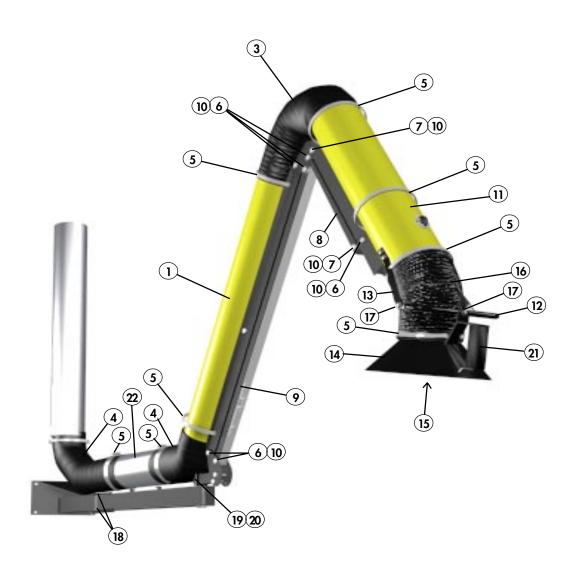


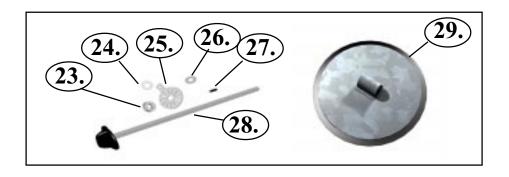
SPARE PART DRAWING

BSAB no: T0.31 Ser.no: MSA/RR Date: May-00 Replace: Aug-98

MultiSmart® Arm

© Copyright: All right reserved.All information within this printed matter may not be reproduced, handed over,copied,xeroxed or translated into another language,in any form or any means without written permission from PlymoVent AB. PlymoVent AB reserves the right to make design changes.







SPARE PARTS LIST

BSAB No: T3.1 Ser. No: MSA / RR

Date: May-00 Replace:Aug-98

MultiSmart® Arm MSA-125,-160,-200

© Copyright: All right reserved. All information within this printed matter may not be reproduced,

handed over, copied, xeroxed or translated into another language, in any form or any means without written permission from PlymoVent AB. PlymoVent AB reserves the right to make design changes

Produkt No: Decription

Α	All models	All models of MultiSmartArm
В	MSA -125-3*	Multi Smart Arm 125
С	MSA -160-3*	Multi Smart Arm 160
D	MSA -200-3*	Multi Smart Arm 200
E	SAE-125-4	Smart Arm Extension 125
F	SAE-160-4	Smart Arm Extension 160
G	SAE-200-4	Smart Arm Extension 200

^{*} Note: A MSA -xxx-4 is a MSA-xxx-3 plus a SAE-xxx-4

Abreviations

X = Order as requiered, state requiered length.

Pos	Art. No:	Α	В	С	Ď	Е	F	G	Description	Note
1	526 178		1						Inner tube Ø 125	
	526 194			1					Inner tube Ø 160	
	526 210				1				Inner tube Ø 200	
3	988 113		1						Hose vmp D-127 L=750	
	989 012			1					Hose vmp D-161 L=750	
	999 581				1				Hose vmp D-205 L=900	
4	988 121		1			1			Hose vmp D-127 L=1200	
	989 020			1			1		Hose vmp D-161 L=1200	
	999 599				1			1	Hose vmp D-205 L=1200	
5	961 656		6			2			Hose clamp SMS-138 black	
	961 466			6			2		Hose clamp SMS-161 black	
	961 664				6			2	Hose clamp SMS-205 black	
6	526 285	#							Bushing Ø26*2,5	
7	526 293	4							Bushing Ø26*5	
8	969 287		1	1					Gas-spring 450 N	
	969 295				1				Gas-spring 680 N	
9	969 303		1	1					Gas-spring 1200 N	
	969 311				1				Gas-spring 1400 N	
10	968 487	#							Cup-spring	
11	526 160		1						Outer tube Ø125	
	526 186			1					Outer tube Ø160	
	526 202				1				Outer tube Ø200	
12	526 517		1						U-tube Ø125	
	526 525			1					U-tube Ø160	
	526 533				1				U-tube Ø200	
13	526 509	2							U-tube attachment	
14	526 368,1		1						Hood Ø125	
	526 376,1			1					Hood Ø160	
	526 418,1				1				Hood Ø200	

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



SPARE PARTS LIST

BSAB No: T3.1

Ser. No: MSA / RR Date: May-00 Replace:Aug-98

© Copyright: All right reserved. All information within this printed matter may not be reproduced,

MultiSmart® Arm MSA-125,-160,-200

handed over, copied, xeroxed or translated into another language, in any form or any means without written permission from PlymoVent AB. PlymoVent AB reserves the right to make design changes

Produkt No: Decription

Α	All models	All models of MultiSmartArm
В	MSA -125-3*	Multi Smart Arm 125
С	MSA -160-3*	Multi Smart Arm 160
D	MSA -200-3*	Multi Smart Arm 200
E	SAE-125-4	Smart Arm Extension 125
F	SAE-160-4	Smart Arm Extension 160
G	SAE-200-4	Smart Arm Extension 200

^{*} Note: A MSA -xxx-4 is a MSA-xxx-3 plus a SAE-xxx-4

Abreviations

X = Order as requiered, state requiered length.

			-						
15	526 400		1						Mesh Ø 265
	506 808			1					Mesh Ø 300
	526 459				1				Mesh Ø 340
16	988 105		1						Hose VMP D 127 L=450
	988 998			1					Hose VMP D 161 L=450
	999 573				1				Hose VMP D 205 L=450
17	968 974	3							Friction washer 25*6,2*2
18	969 048					2	2	2	Brake lining 40*20*3
19	963 009	2							Ballbearing
20	503 946	1							Brake bushing
21	526 574	1							Handle
22	979 161,1					1			Ø 125 Tube L=300
	979 229,1						1		Ø 160 Tube L=300
	979 567,1							1	Ø 200 Tube L=300
23	970 939	1							Ponge rubber washer
24	955 005	1							Star lock washer
25	531 202	1							Ratchet
26	968 479	1							Spring washer
27	961 144	Х							Ball cassette
28	531970-Z		1						Damper axle with knob (Ø125)
	531988-Z			1					Damper axle with knob (Ø160)
	531996-Z				1				Damper axle with knob (Ø200)
29	531 863		1						Damper blade Ø125
	531 871			1					Damper blade Ø160
	531 889				1				Damper blade Ø200

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



SPARE PARTS LIST

BSAB No: T3.1

Ser. No: MSAs / RR

Date: Aug -98 Replace:

© Copyright: All right reserved. All information within this printed matter may not be reproduced,

MultiSmart® Arm MSAS-125,-160

handed over, copied, xeroxed or translated into another language, in any form or any means withorwritten permission from PlymoVent AB. PlymoVent AB reserves the right to make design changes

Produkt No: Decription

Α	All models	All models of MultiSmartArm
В	MSAS -125-3*	Multi Smart Arm 125
С	MSAS -160-3*	Multi Smart Arm 160
D	SAES -125-4	Smart Arm Extension 125
E	SAES -160-4	Smart Arm Extension 160

^{*} Note: A MSAS -xxx-4 is a MSAS-xxx-3 plus a SAES-xxx-4

Abreviations

X = Order as requiered, state requiered length.

Pos	Art. No:	Α	В	С	D	Е	F	G	Description	Note
1	526 749		1						Inner tube Ø 125	
	526 764			1					Inner tube Ø 160	
3	998 310		Х						Hose food grade Ø127 L-750	
	998 427			1					Hose food grade Ø165 L-750	
4	998 310		Х		Х				Hose food grade Ø127 L-1200	
	998 435			1		1			Hose food grade Ø165 L-1200	
5	961 455		6		2				Hose clamp Ø127	
	961 540			6		2			Hose clamp Ø165	
6	526 285	#							Bushing Ø26*2,5	
7	526 293	4							Bushing Ø26*5	
8	969 287		1	1					Gas-spring 450 N	
9	969 303		1						Gas-spring 1200 N	
	969 311			1					Gas-spring 1400 N	
10	968 487	#							Cup-spring	
11	526 731		1						Outer tube Ø125	
	526 756			1					Outer tube Ø160	
12	526 855		1						U-tube Ø125	
	526 863			1					U-tube Ø160	
13	526 889	2							U-tube attachment	
14	526 434		1						Hood Ø125	
	526 442			1					Hood Ø160	
15	526 996		1						Mesh Ø 265	
	928 119			1					Mesh Ø 300	
16	998 310		Х						Hose food grade Ø127 L-450	
	998 419			1					Hose food grade Ø165 L-450	
17	968 974	3							Friction washer 25*6,2*2	
18	969 048				2	2			Brake lining 40*20*3	
19	963 009	2							Ballbearing	
20	503 946	1							Brake bushing	
21	526 913	1							Handle	
22	526 632				1				Ø 125 Tube L=300	
	526 954					1			Ø 160 Tube L=300	

When ordering spare parts please quote:

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

For example:

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