

**OWNER'S MANUAL** Installation, Operation & Maintenance

> SERIES 100 TOUGH PORTABLES

> > **BOS**

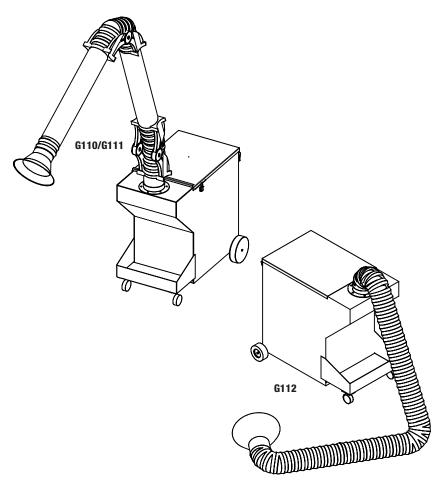
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MODELS G110 G111 G112



# **OWNER'S MANUAL**

## Installation, Operation & Maintenance



Manufactured by: RoboVent 37900 Mound Road Sterling Heights, MI 48310 USA (855) 558.VENT www.ventboss.com

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# **CONGRATULATIONS!**

Dear Customer,

Thank you for purchasing a VentBoss product. This manual will help you use the many features available to customize the unit to your specific welding needs.

At VentBoss we are committed to making your facility a safe and healthy environment for your workers. Please take time to read this manual thoroughly before installing and operating the unit.

When your VentBoss needs scheduled maintenance, keep in mind that VentBoss has specially trained staff in servicing our equipment. If you would like to schedule service, or if you have a question or concern regarding your VentBoss product, please contact us at: **(855) 558.VENT** or **customer.service@ventboss.com**.



# TABLE OF CONTENTS

Important Safety Instructions
Features of the G110, G111 & G112Section 200Pages 7-8
Receiving & Inspection Page 9
General Description
Installation Page 11
Operation
General Maintenance ProcedureSection 700Pages 13-14
Troubleshooting

Appendix A: Fume Arm Installation, Operation & Maintenance

## SECTION 100 IMPORTANT SAFETY INSTRUCTIONS





Failure to follow all instructions may result in electric shock, bodily injury and/or destruction of the unit

Use of controls, adjustments, or performance of procedures other than those specified herein, may result in electrical shock.

#### **IMPORTANT SAFETY INSTRUCTIONS**

- 1. Read all instructions thoroughly.
- 2. Heed all warnings.
- Do not block intake or exhaust vents. Keep the exhaust vent free from debris and materials that could restrict airflow. Prolonged restriction could damage the motor and electrical components. Any blockage of the air flow will decrease efficiency of this unit.
- Refer all service matters to qualified service personnel. Servicing is required when the unit is damaged in any way including the control panel, supply wiring or in the case of excessive filter loading.
- Risk of serious injury or death! Use extreme care to make sure you are never in a position where your body (or any item you are in contact with, such as a screwdriver or test instrument) can accidentally touch the blower wheel.
- 6. Disconnect power before working on the motor or blower wheel. The motor or blower wheel should be disassembled only by a factory authorized technician.



WARNING

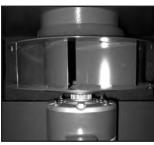
## SECTION 200 FEATURES OF THE G110, G111 & G112



**FIGURE 1** 



FIGURE 2



**FIGURE 3** 



FIGURE 4

- 1. Filtration System: The VentBoss Models G110, G111 and G112 are portable fume collectors for use in intermittent duty or light production applications. The heavy duty construction and versatility of the VentBoss puts it at the front of its class of portable air cleaners 1000 CFM or less.
- 2. Vertical Filter Design (Standard): Vertically aligned filters allow the dust to shed off the filter and fall directly down into the containment system. The unique vertical design increases filter life by 30% to 40% over traditional horizontal filter placement.
- 3. Manual Filter Cleaning: The VentBoss portable comes equipped with an energy saving Manual Filter Cleaning design that allows the oversized vertical cartridge filter to be back flushed with shop air. See Section 600 for Cleaning the Cartridge Filter.
- 4. Easy Access "Easy Load" Filter System: For your convenience the VentBoss Series 100 Portable is designed with a top load filter system, which allows the filter to be removed in seconds. Figure 1.
- Locking Wheels: The VentBoss Series 100 Portable comes standard with two stage locking caster wheels which lock the unit in all four directions. Figure 2.
- 6. High Performance blower: The aluminum Acoustafoil blower is the heart of the VentBoss Series 100 Portable. This High Performance Blower is engineered for High Output air volume with 4.5" of maximum static pressure. Figure 3.
- 7. High Grade A13 Filter: A premium high grade A15 Filter (Figure 4) comes standard with each VentBoss Series 100 Portable which contributes to its high efficient filtration. This durable filter can be back-pulsed numerous times, or removed and cleaned, and continue to deliver hours of excellent filtration.

## SECTION 200 FEATURES OF THE G110 & G111 (continued)



**FIGURE 5** 



**FIGURE 6** 



**FIGURE 7** 

- 8. Heavy Duty Construction: Unlike most portables, the VentBoss Series 100 Portable is made from heavy 12 and 16 ga steel. Seams are robotically welded to assure there are no leaks or cracks that could contaminate the facility air system.
- **9. Built-In Acoustical Sound Plenum:** High Density Foam Barriers and Built-In Acoustical Bass Traps have been engineered into the VentBoss Series 100 Portable design to make it one of the quietest portable's in today's market. The VentBoss Series 100 Portable's quiet 67 B sound rating will not add to your shop ambient noise level.
- 10. G110 6" 10' Long Fume Arm with Light Configuration: The 10' long Fume Arm makes it easy to work in a 270 degree, 16 foot diameter area giving the VentBoss G110 Portable the widest coverage of any portable of its size. Figure 5. The LED light in the hood makes it easy to see what you are working on (Figure 7).
- **11. G111 6" 14' Long Fume Arm with Light Configuration:** The model G111 has all the same features as the model G110, but has a 14' long Fume Arm giving it a longer reach. The LED light in the hood makes it easy to see what you are working on (Figure 7).
- **12. G112 6" Flexible Duct with Light Configuration:** This 12' flexible attachment is made of heavy duty extraction duct that is quick to install, and is easy to move and re-position. Figure 6. The LED light in the hood makes it easy to see what you are working on (Figure 7).
- **13. Durable Powdercoat Finish:** For long lasting durability the VentBoss Series 100 Portable is fully powder coated with an industrial grade textured finish.

## SECTION 300 RECEIVING & INSPECTION

#### Receiving

VentBoss equipment is typically shipped on skids or in crates. The number of skids/ crates will vary, depending on the type, size and accessories ordered. These skids/ crates are too heavy to lift by hand, and will need to be unloaded by an industrial forktruck or similar equipment.

#### Inspection

A visual inspection of your equipment should be performed before it is removed from the truck. Dents, scratches, and other damages should be noted on the shipping documents, and also photographed. The structural integrity of the housing can be adversely affected by large dents. VentBoss should be immediately notified of any structural damage to your equipment. It is the purchaser's responsibility to file shortage reports and damage claims with the carrier and with your VentBoss Representative. The carrier is responsible for any damage to the equipment while it is in transit unless specific arrangements are made otherwise.

Compare the number of items received against the carrier's bill of lading. Inspect all items for apparent damage. Immediately report any shortages or obvious damage to the carrier and to your local VentBoss Representative, call the factory at 1 (855) 558.VENT, or email: customer.service@ventboss.com.

When all skids are completely unpacked and uncrated, check all items received against the packing lists. Further inspect the unit and components for hidden damage. Again, report any shortage or damage to the carrier and to your local VentBoss Representative.

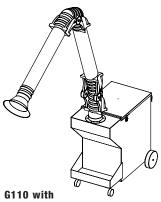
The filter cartridges are typically shipped installed in your collector. Be sure to check them for alignment, as they may have shifted during transit. If they have shifted, it is possible that damage may have been done. Remove all filter cartridges and inspect thoroughly.

# Note: Do not return any damaged components without first contacting your VentBoss Representative to obtain a Returned Goods Authorization (RGA).

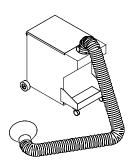
#### **Small Parts**

Carefully inspect all packing material before it is discarded, to be sure that no small parts have been missed.

## SECTION 400 GENERAL DESCRIPTION



6" Dia. x 10'L FumeArm



G112 with 6" Dia. x 12'L FlexHose

VentBoss G100 Series Portable fume extractors are compact, portable filtration systems that will supply years of low maintenance operation. Delivering 750 CFM of smoke eating power, the VentBoss can be rolled to any area where welding is performed.

The VentBoss G110 model is equipped with a 6" x 10' long fume arm with external joints giving it a 16' diameter reach. The extra large 6" fume arm extends to a full 8 foot radius and can swing 340 degrees with ease.

The G111 model has a 6" x 14' long fume arm with external joints giving it a greater diameter reach than the model G110.

The VentBoss G112 model employs a 6" x 12' long flexible duct attachment with hood. The 12' flexible attachment allows the VentBoss to accommodate many different applications.

#### **GENERAL OPERATION**

The VentBoss G110, G111 & G112 Portables have been designed specifically for manual welding operations that require mobility.

Each model draws dust-laden air through a secondary internal baffling design that causes separation and deposition of the larger, heavier dust particles. These particles are diverted to the dust storage device thus reducing the dust load to the filter cartridges. Finer particles are collected on the surface of the filter cartridges but will eventually be dislodged through the manual cleaning process. Clean air is then returned to the plant through the exhaust vent.

# SECTION 500



**FIGURE 7** 



FIGURE 8



FIGURE 9

The VentBoss G110, G111 & G112 base unit comes pre-assembled for immediate use. Please go through the packing list to make sure you have all the required parts. The cartridge filter and spark arrester are already be installed inside the unit.

#### Assembly of Fume Arm Model FR610

Model G110 and G111 will require assembly of the fume arm to the base unit.

Place the swivel base of the arm with the 1/2" stopper (Figure 7) block facing the back or handle side of the VentBoss as shown. Attach the arm to the base with the six 1/4" bolts provided with the fume arm. When properly installed the arm will rotate about 340 degrees.

To operate your new VentBoss portable (Figure 8), you will simply need to set your position, plug it into a dedicated 110 volt 20 amp plug and start welding. After 4-6 hours of use the filter element will need to be back pulsed. (See Pulsing the VentBoss Series 100 Portable, Section 700.)

#### **Electrical Connection**

The VentBoss G110, G111 & G112 come ready to plug into a 20 amp 110 volt service. Figure 9. Amperage requirements of the Single Phase 110 Volt model are found on the product Specifications Sheets.

## SECTION 600 OPERATION



**FIGURE 10** 



**FIGURE 11** 



FIGURE 12



#### Pulsing the Series 100 Portable (Cleaning the Cartridge Filter)

The VentBoss Series 100 Portable comes equipped with a Manual Pulsing System (MPS) for back flushing the cartridge filter.

Located at the top center of the cartridge door is a round rubber grommet. Figure 10. Turn off the VentBoss and disconnect the power. With your shop air gun, insert the point into the rubber plug and shoot several blast of air into the cartridge as shown. Rotate the point of the gun 360 degrees while directing short blast of air into the center of the cartridge. Repeat the blast until the entire area inside the cartridge filter has been covered.

#### Fume Arm Adjustment (Model G110 & G111)

The Multi-Positional Fume Arm comes factory adjusted and balanced for maximum ease of mobility. Figure 11.

Position the Fume Arm by pushing or pulling the hood section over the welding area as shown. Place the fume hood above and slightly in front of the welding area. Figure 12. This will keep smoke and fumes away from the operator. Adjust the Fume Arm hood to maximize smoke capture.

The VentBoss Fume Arm has two adjustment points, that can be changed at any time to give the arm greater flexibility. Figure 13.

Friction disks, located at the base of the arm and at the first hinge point, can be tightened or loosened with a 12mm wrench. Simply tighten the nut on the friction disk to make the joint stiffer or loosen to give the joint freer, less restricted action. Be careful not to over tighten the disk as this could cause permanent injury to the arm.

Some fume arms come equipped with a shock or strut. The shock is not adjustable.

## SECTION 700 General Maintenance Procedures



**FIGURE 14** 

# Note: These procedures are to be performed while there is no welding occurring!

#### **Replacing the Filter Cartridge**

The high grade cartridge filter of the VentBoss G110, G111 & G112 can be back-pulsed to regain its airflow. Prior to making a decision to replace the filter, first follow the procedures of "Pulsing the Series 100 Portable" in Section 600. The cartridge can also be taken out and manually cleaned with compressed air, by blowing from the inside of the filter out. If the VentBoss still does not draw sufficiently, then replace the cartridge.

Replacing the filter cartridge is as easy as opening the top hatch door and removing the filter. Be sure to clean all dust and debris from the filter plenum before replacing the cleaned or new filter cartridge. Figure 19.

Replace with a new cartridge filter. Replacement filters may be ordered by calling VentBoss Product Group at 1-855-558-VENT.

#### **Replacing the Baffle Filter**

The VentBoss Series 100 Portable comes equipped with an internal spark arrestor filter located in front of the cartridge filter. Figure 21. CAUTION! DO NOT replace this panel with anything other than what was originally installed in your portable unit. Failure to do so will greatly increase the risk of fire.

Placement of the baffle is extremely important as the baffles should run vertical with cup side facing toward the front of the collector. Failure to place the baffle as shown will increase the risk of fire.

### SECTION 700 General Maintenance Procedures (continued)



**FIGURE 15** 

#### **Cleaning the Spark Arrestor Filter**

The metal spark arrestor filter should be removed and cleaned on a regular basis. If particulate builds up on the metal mesh the risk of fire in the system is greatly increased. Typically, the filter should be removed and cleaned with a hot detergent solution every month. Filters that are bent or deformed beyond repair should be replaced. See Specification Sheet for ordering a proper replacement.

#### Dust Removal (Cleaning)

Cleaning frequency of the cartridge plenum will vary depending on the welding application. Periodically check the filter and the area immediately outside the filter for excessive particulate buildup. Follow the procedures in Section 600 for Pulsing the Series 100 Portable. This will dislodge most of the particulate from the filter pleats.

After manually cleaning the filter open the top cover, as shown, and remove the cleaned cartridge filter. Using a shop vac unit, vacuum the excess dust and particulate from the walls and floor. Figure 15

Make sure dust and particulate does not fall into the cone of the blower. This will result in the particulate being blown out of the unit when the blower is turned on. Replace the cleaned or new cartridge to the filter seat and secure the top cover.

#### **Blower Maintenance**

The blower in your VentBoss Series 100 Collector will require very little attention, although it is important to make sure it is kept clean. Installation of a new blower wheel requires a certified VentBoss Technician to balance the wheel and motor. Contact 1-855-558-VENT. If your motor is fitted with grease nipples, they must be lubricated every six months.

#### VentBoss Series 100 Portable is making excessive noise. Check the following:

- 1. Make sure the blower wheel is not hitting the venturi.
- 2. Check that all motor bolts are securely tightened.
- 3. Make sure motor bearings are good. (Amperage rating will be higher than normal.)
- 4. Blower wheel could be out of balance. If the blower wheel has gone out of balance, there will be excessive vibration. In this case, please contact the VentBoss Technical Department at 1-855-558-VENT.

#### Little or no suction across intake. Check the following:

- Cartridge filter is loaded. Review "Pulsing the Series 100 Portable" in Section 600 under OPERATION. With the air hooked up press the Solenoid Plunger 25-30 times with a 3-5 second spacing between each pulse. Make sure the unit is turned off for this process.
- 2. If using a fume arm make sure the butterfly valve behind the intake hood is not closed. Sometimes this valve will close on it's own, cutting off most of the air supply.

#### Cartridge filter loads up but no dust in the dust tray. Check the following:

- 1. Check that the Manual Pulsing System is working properly.
- 2. Check for oil or moisture on the filter media. If oil or moisture exists in the air supply it will transfer to the cartridge.

In some cases high oil content is introduced in the welding process causing the oil to vaporize. This will cause the cartridge filters to load up prematurely. Call the VentBoss Service Department at 1-855-558-VENT for more information.

#### Fume Arm falls when extended:

- 1. Tighten the friction disk located near the swivel base of the arm. Be sure not to over tighten. (See Fume Arm Adjustment in Section 600).
- 2. Fume Arm may be overextended beyond it's weight limit. Place the arm closer to the portable.

# **APPENDIX A**

## FUME ARM INSTALLATION, OPERATION & MAINTENANCE

## APPENDIX A: INSTALLATION, OPERATION & MAINTENANCE

#### **General Description & Reservations**

VentBoss Base Mount Fume Arms are meant for capturing the welding dusts and gases as well as fine dusts, straight at the emission source, in order to avoid expanding the impurities in the process room and being inhaled by people. The arms are manufactured in hanging and standing version. The extraction arms can work independently with an e traction fan, or in a group of devices connected to the main discharging ductwork with a central fan.

#### **Producer Reservations:**

- A. Producer accepts no liability for any consequences following from the operational use that is in contradiction to the purpose of application.
- B. It is unacceptable to install on the structure of the device any additional elements not belonging to its normal construction or accessory set.
- C. Any structural changes or modification of the unit, made by User on one's own, are not permitted.
- D. Protect the flexible elements as well as the pipes of the suction duct from mechanical damage.
- E. Prior to installing check the load capacity of the wall or other building structure where the device shall be mounted.
- F. The devices cannot be applied for conveying the air containing aggressive contaminants.

#### **Structure & Function**

VentBoss extraction arms are constructed of subsequent assemblies presented in Diagram 1 (See Appendix A):

- Swivel
- Two pipe segments ("I" and "II") connected together with frictional joints
- Gas springs to balance the segment weights
- Shut-off damper
- Suction hood with wire mesh protecting the inlet from getting in the burning rests and chippings.

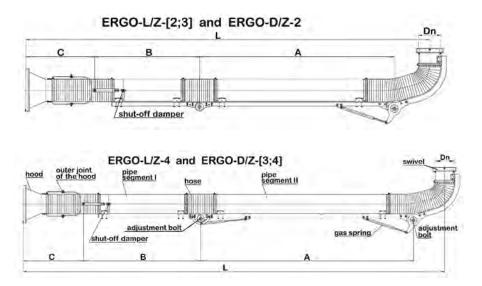
The swivel guarantees a full rotation of the whole appliance around its vertical axis and therefore ensures an easy device positioning in the requested point within the workspace. The swivel and the pipe segments integrated together with hose sections (flexible connectors) along with the attached hood – are forming a ventilation duct altogether, serving for extraction the dust laden air. This arm configuration can be changed within the work range of the given type of the extraction arm. Additionally, the intake air volume can be adjusted by means of the shut-off damper (installed in the pipe segment "I"). Adequately adjusted frictional joints in co-function with the gas springs, provide comfort of maneuvering with the extraction arm.

The suction hood can be equipped with a halogen spotlight to light up the workspace. In order to install the extraction arm on the wall or column use a wall bracket. It can also be suspended at the end of the RO-type extension arm.

Туре	Dimension	Weight				
	Dn {inch}	L {inch}	A {inch}	B {inch}	C {inch}	
ERGO-L/Z-2	Х	90,80	35,71	22,91	Х	37,4
ERGO-L/Z-3	Х	90,80	35,71	22,91	Х	37,4
ERGO-L/Z-4	Х	90,80	35,71	22,91	Х	37,4
ERGO-D/Z-2	Х	90,80	35,71	22,91	Х	37,4
ERGO-D/Z-3	Х	90,80	35,71	22,91	Х	37,4
ERGO-D/Z-4	Х	90,80	35,71	22,91	Х	37,4

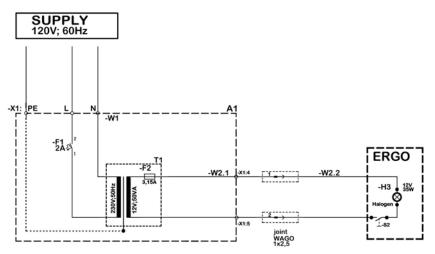
#### **Technical Specifications**

(Refer to diagrams below for DN, L, A, B, & C



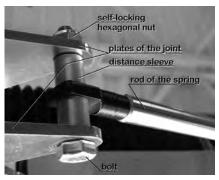
VentBoss extraction arms in versions ERGO-L/Z and ERGO-L/Z are equipped with hoods with halogen spot-lights. See next page for connection diagram.

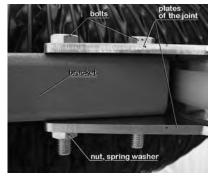
Connection diagram for hoods with halogen spot-lights:



#### **Fume Arm Assembly**

- 1. Take out the VentBoss extraction arm from the package and put it stably on an even surface.
- 2. Pull the arm segments apart until you obtain the 45° angle.
- 3. Screw up the swivel support to the plate of the lower joint see detail "B" (Pic. 2)
- 4. Fold in the loose fabric edge, at the end of the hose then sleeve the hose onto the swivel ferrule and secure it with a hose clamp.
- 5. Fasten the termination of the gas spring with a screw to the plate of the lower joint see detail "A" (Pic. 1).
- 6. Connect the upper segment II with the lower segment I using a hose following the point 4.
- 7. Screw up the outer joint to the hood see detail "C" (Pic. 3).
- 8. Using a hose, connect the lower segment I with the hood following the point 4.
- 9. The VentBoss extraction arm is ready to be mounted on a wall bracket or to a filtering device.

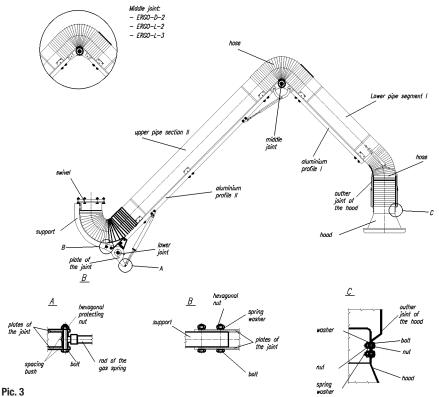




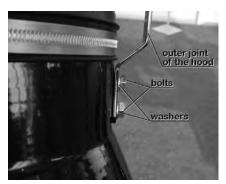




In case when the extraction arm is installed on a wall bracket, it is important to carry out levelling of the bracket surface while mounting it on a wall. If the bracket is not levelled, the extraction arm is likely not to keep the requested by User work position and tend to fall into one position only (Pic. 4).



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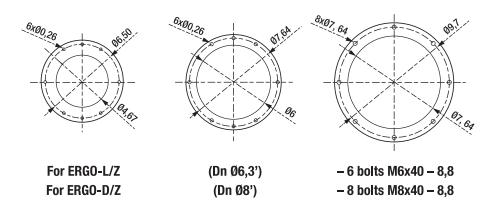


Pic. 3

Pic. 4

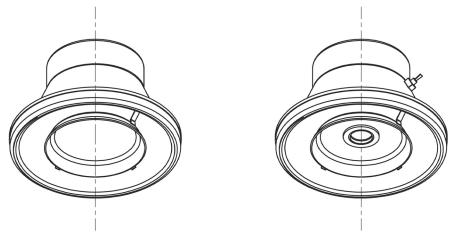
hanging extraction arm

wall bracket



VentBoss Fume extraction arms are delivered in cardboard packages in a partly assembled state. Before the extraction arm is installed at the work place – it is important to bring the device into completely assembled state (according to the enclosed instruction). The extraction arms can be mounted on a wall bracket (delivery on separate order). The diameter and placement of the mounting holes in the bracket and in the arm swivel are the same.

It is inadmissible to install the VentBoss extraction arm directly to the ventilation installation, as it is usually not constructed to carry such charges during the operational use of the device.



Hood with light

- Prior to work, start the extraction fan and make sure the ventilation discharge ductwork is functioning.
- Set the hood into suitable position: not more than 30 cm from the welding arc, and not less than 20 cm – as the welding chippings could effect the hood and additionally the hood suction could interrupt the protection gas shield (CO2, argon). It is important that the hood is effectively capturing the fume and does not cause any obstacle to User.
- Using the shut-off damper lever, adjust the intake air volume to eliminate the dust / fume most efficiently.
- The position of the hood and the damper lever can be changed many times during the work, so User can adjust them most appropriately, to the current needs.
- After the work is completed the extraction arm can be left in the ultimate position (operational state), or if it causes obstacle – set the arm in the home position.
- Stop the extraction fan, if the device works in a ventilation system close the appropriate shut-off damper.

#### Using Your VentBoss Fume Arm

The construction guarantees a safe and reliable function without continuous servicing and special handling. The adjustment of the ERGO extraction arm consists mainly in corrections within the frictional joints. The frictional brakes are placed in each joint of the d evice and their function is to give the balance and self-supporting properties of the whole extraction arm and ensure an easy manoeuvring during the operation.

The adjustment of the frictional brakes is carried out by increasing or reducing the tension of the nuts upon the frictional elements.

The brake adjustment in the following joints ought to be executed in such a way that it guarantees the stability and self-supporting features of the extraction arm (which is important to keep the stable arm position), whereas on the other hand this cannot cause any excessive resistance while User is changing the arm position. Having completed the adjustment, tighten up the counter-nut. The placement of the adjustment nuts is illustrated in the "VentBoss Extraction Arms – Dimensional Drawings" (Diagram 1—Appendix A).

	Туре	Possible Reason & Corrective Action		
1.	The extraction arm is falling.	-Improperly adjusted frictional brake. -Increase the tension upon frictional disks of the brake in the joint by tightening the adjustment nuts.		
2.	The extraction arm is automatically setting always in the same position.	-The rotation axis of the arm is not positioned vertically. -Carry out the positioning of the mounting flange of the ERGO extraction arm to set the rotation axis vertically.		
3.	Drop in the air suction rate along with the increased noise level.	-Improper impeller rotation sense of the extraction fan. -Change the phase connection sequence (only 3-phase motor). If the mesh holes of the inlet net are clogged, clean them using a wire brush.		

#### Safety

The VentBoss extraction arms will not cause any risk provided that they are firmly and correctly mounted to the wall or another structural element of the building.

**CAUTION!** Unsure installing could cause uncontrolled detachment

of the device and be serious risk to personnel / people in the vicinity.

Having completed the work, leave the extraction arm in the ultimate operational position, in case when it constitutes obstacle to personnel/User, set in into the home position. Prior to installing check the load carrying capacity of the building structure.

#### Maintenance & Repair

In order to obtain appropriate capture efficiency of the suction hood, clean its surface and the inlet wire-mesh net from the deposited dusts and impurities. In case of welding dusts, additionally – sprinkle the hood with an anti-spattering liquid to avoid adhesing the welding chippings.

In case when the extraction arm is losing its self-supporting properties – undertake the adjustment of its frictional brakes (to regain self-locking function of the joints).

Lubricate the swivel every 3 months using solid grease (lubrication nipple is located in the swivel flange).

After 1 operational year, submit the device to a technical revision and repair or replace the faulty element.

Clean the internal surfaces of the extraction conduits (segment pipes) from the deposited impurities. Revision frequency depends on the operational intensity. It is recommended to examine the pollution state of the discharge conduits once in three months.

#### **Transportation & Storage**

VentBoss extraction arms have to be stored and transported in partly disassembled state and in special packages. The devices ought to be stored in dry and well ventilated rooms. During the transport / reloading protect the device from scratching, indents and pay attention that the markings and labels would not get detached/obliterated.

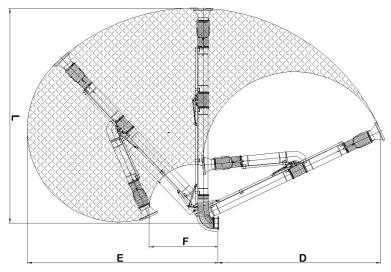
#### Warranty

The period of warranty for the purchased device is indicated in the "Card of Warranty". The warranty does not comprise:

- defects and damages arising during the incorrect use and in application that is inconsistent with the present manual
- mechanical and electrical damages being caused during improper storage and transport or incorrect maintenance
- · structural modifications, or changes / adaptations introduced by User on one's own
- inefficiency following from the normal operational exhaustion

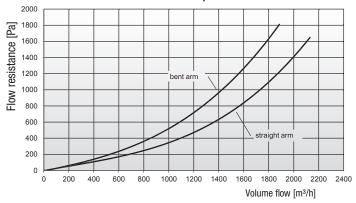
Infringement of the section 3 "*Reservations of producer*" of the *Owner's Manual* and especially modifications undertaken by User on one's own shall cause the loss of warranty validity.

#### **Range of Fume Extraction Arm:**

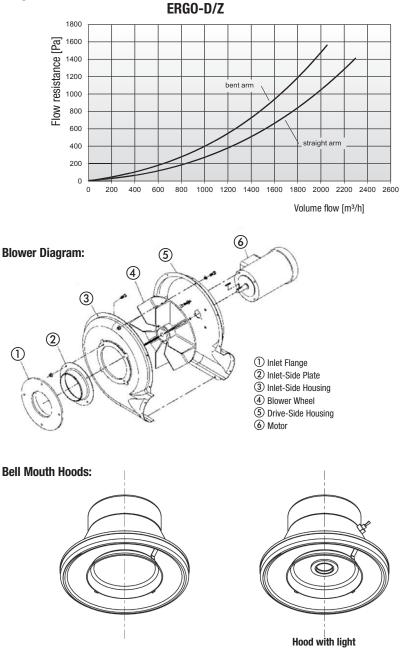


Туре	D {mm}	E {mm}	F {mm}	L {mm}	
ERGO-L/Z-2	65,51	79,72	28,27	90,79	
ERGO-L/Z-3	87,56	108,07	38,74	122,28	
ERGO-L/Z-4	106,06	131,81	47,52	148,66	
ERGO-D/Z-2	64,96	79,02	27,91	90,00	
ERGO-D/Z-3	88,66	109,49	39,25	123,86	
ERGO-D/Z-4	105,47 47,24 147,87				

ERGO-L/Z



#### **Range of Fume Extraction Arm:**





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