

Use and Maintenance Manual



Hanging Extraction Arm

ERGO LUX-M; ERGO LUX-K;

ERGO LUX-L; ERGO LUX-D

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1. Introductory Remarks

The purpose of the present Use and Maintenance Manual is to supply the Purchaser and the future User with directions within the range of application, installation, start-up and the operational use of the **ERGO LUX Extraction Arm**.

Therefore, installing, start up and operational use are exclusively admissible after getting acquainted with the contents of the Use and Maintenance Manual.

With regard to continuity of work carried on improvement of our products, we reserve for ourselves the revision possibility of the draft and technological changes improving their functional features and safety.

The construction of the **ERGO LUX Extraction Arm** meets the requirements of the current state of technology as well as the safety and health assurances included in:

- **2006/42/EC Machinery Directive** of the European Parliament and of the Council of 17 May, 2006 on machinery – amending the 95/16/EC (recast) /*Journal of Laws EC L157 of 09.06.2006, page 24/*

The device has been constructed and produced on the basis of following harmonized standards:

- **EN ISO-12100:2012** – “Safety of machinery – Basic concepts, general principles for design. Risk assessment and risk reduction”.

2. Application

ERGO LUX Extraction Arm has been developed for capturing the welding dust particles and welding gas and also other fine dust particles, directly at the emission source, in order to avoid the contamination expanding within the process room / hall and to protect the people in the vicinity from inhaling the contamination.

The extraction arms are manufactured in hanging and standing version. They can work independently, in a single configuration with one extraction fan, or in a group of extraction arms, connected to the main collecting ductwork (with a central fan).

3. Reservations of Producer

- Producer is not responsible for failures arising during the use that is inconsistent to the purpose of application.
- Installing any additional elements not belonging to the normal device structure (or accessory set) is not acceptable.
- Any structural changes or modification of the unit carried out by User on one's own are not permitted.
- Protect the flexible elements and the suction duct segment (pipe) from mechanical damage.
- Prior to installing examine the load capacity of the of the wall or other building structure in points where the device shall be mounted.
Unsure mounting could cause hazard to personnel / people in the vicinity, as well as damage of the device itself.
- Do not use the device for conveying the air mixture with combustible substances, in form of gas, vapour, mist or dust – that might create explosive atmosphere.**

- G. Do not apply the device for conveying the air containing viscous compounds that would deposit on the surface of the device elements.
- H. Do not apply the device for conveying the air containing aggressive compounds that would have destructive effect on the device elements.
- I. Maximum admissible vacuum in the system cannot exceed 800 Pa.
In case of higher vacuum of the system, (where the ERGO LUX extraction arm is installed), damage of the hoses would occur.

4. Technical Data

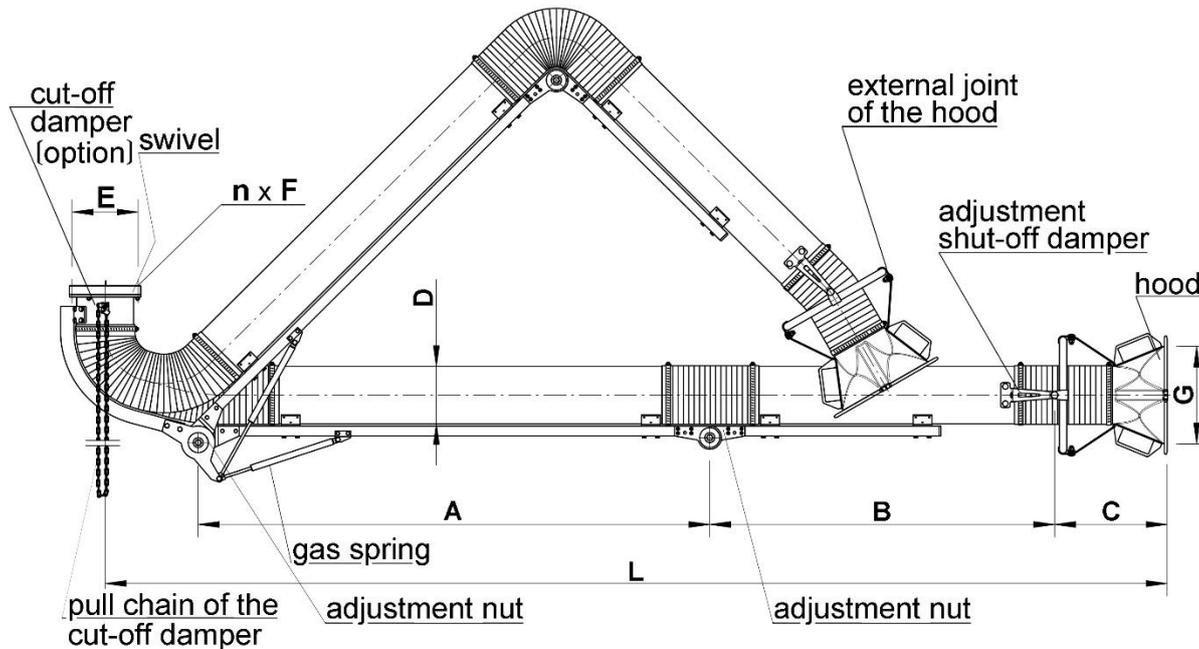


Fig. No.1 – Extraction Arms type ERGO LUX – Dimensions and Structure

Table No.1 – Extraction Arms type ERGO LUX – Dimension, weight

Remarks	Type	Dimensions								Weight [kg]	
		D _n [mm]	L [m]	A [mm]	B [mm]	C [mm]	E [mm]	n x F [mm]	G [mm]		
hanging version	standard hood	ERGO LUX-M/1,5	100	1,8	630	555	335	Ø155	6 x Ø6,5	Ø235	10,0
		ERGO LUX-M/2		2,2	960	675					11,0
		ERGO LUX-K/2	125	2,3	1055	650					12,5
		ERGO LUX-K/3		3,0	1540	915					14,0
		ERGO LUX-L/2	160	2,3	905	790		Ø194	Ø295	17,5	
		ERGO LUX-L/3		3,15	1530	1030				19,5	
		ERGO LUX-L/4	200	3,8	1910	1260		Ø246	8 x Ø8,5	Ø335	22,0
		ERGO LUX-D/2		2,3	905	790					19,0
	ERGO LUX-D/3	200	3,15	1530	1030	Ø246	8 x Ø8,5	Ø335	22,5		
	ERGO LUX-D/4		3,8	1910	1260				25,0		
	hood with a spot-light	ERGO LUX-LL/2	160	2,3	905	790	Ø194	6 x Ø6,5	Ø295	17,5	
		ERGO LUX-LL/3		3,15	1530	1030				19,5	
		ERGO LUX-LL/4	200	3,8	1910	1260	Ø246	8 x Ø8,5	Ø335	22,0	
		ERGO LUX-DL/2		2,3	905	790				19,0	
ERGO LUX-DL/3		200	3,15	1530	1030	Ø246	8 x Ø8,5	Ø335	22,0		
ERGO LUX-DL/4			3,8	1910	1260				25,0		

Extraction arms type ERGO LUX-LL and ERGO LUX-DL are equipped with hoods with halogen spotlights. For information about the connection of the lighting see the Connection Diagram enclosed to the present Use and Maintenance Manual (see Fig. No.4).

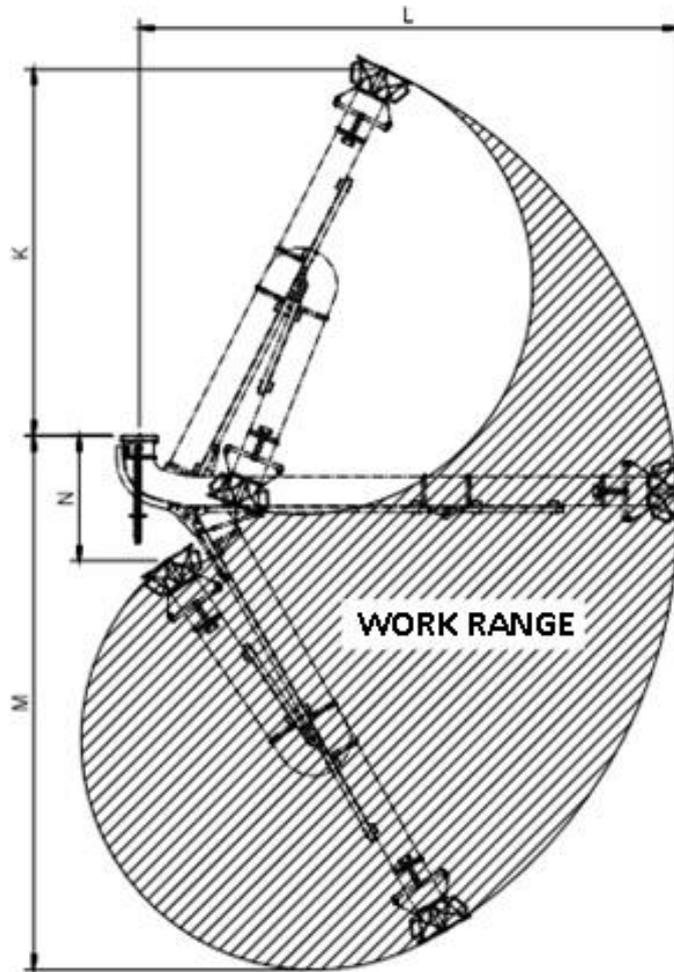


Fig. No.2 – Work ranges of the extraction arms

Table No.2 – Dimensions of the work ranges of the extraction arms

Type	K [m]	M [m]	N [m]	L [m]
ERGO LUX-L(L)/2	1,4	2,4	0,6	2,3
ERGO LUX-D(L)/2				
ERGO LUX-L(L)/3	2,2	3,2	0,75	3,2
ERGO LUX-D(L)/3				
ERGO LUX-L(L)/4	2,7	3,7	1,2	3,8
ERGO LUX-D(L)/4				

Table No.3 – Hoods for the ERGO LUX extraction arms

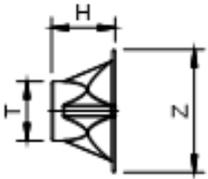
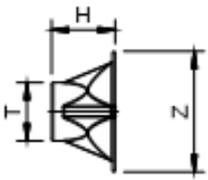
Sort of the hood	Material	Type	Z [mm]	T [mm]	H [mm]	Weight [kg]	Application	Equipment
	plastic ABS	MST	330	100	190	0,35	ERGO LUX-M/1,5 ERGO LUX-M/2	– replaceable inlet wire-mesh
		KST	330	125		0,36	ERGO LUX-K/2 ERGO LUX-K/3	
		LST	365	170		0,42	ERGO LUX-L/2 ERGO LUX-L/3 ERGO LUX-L/4	
		DST	415	210		0,53	ERGO LUX-D/2 ERGO LUX-D/3 ERGO LUX-D/4	
		LLT	365	170		0,45	ERGO LUX-LL/2 ERGO LUX-LL/3 ERGO LUX-LL/4	– replaceable inlet wire-mesh
		DLT	415	210		0,55	ERGO LUX-DL/2 ERGO LUX-DL/3 ERGO LUX-DL/4	– halogen spotlight 12V – switch

Table No.4 – Inlet wire-mesh for the hoods

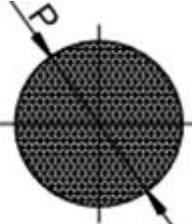
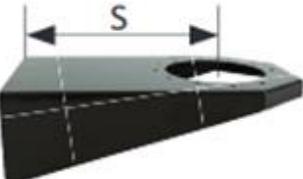
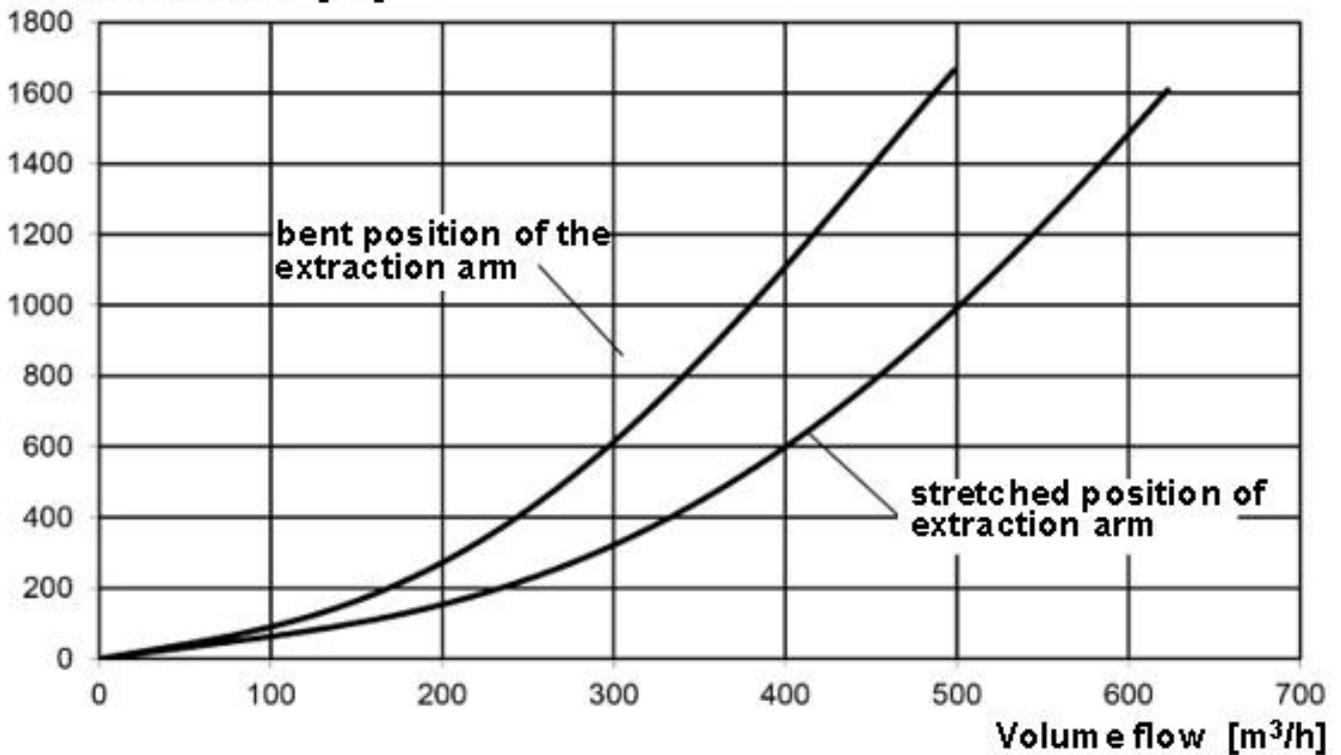
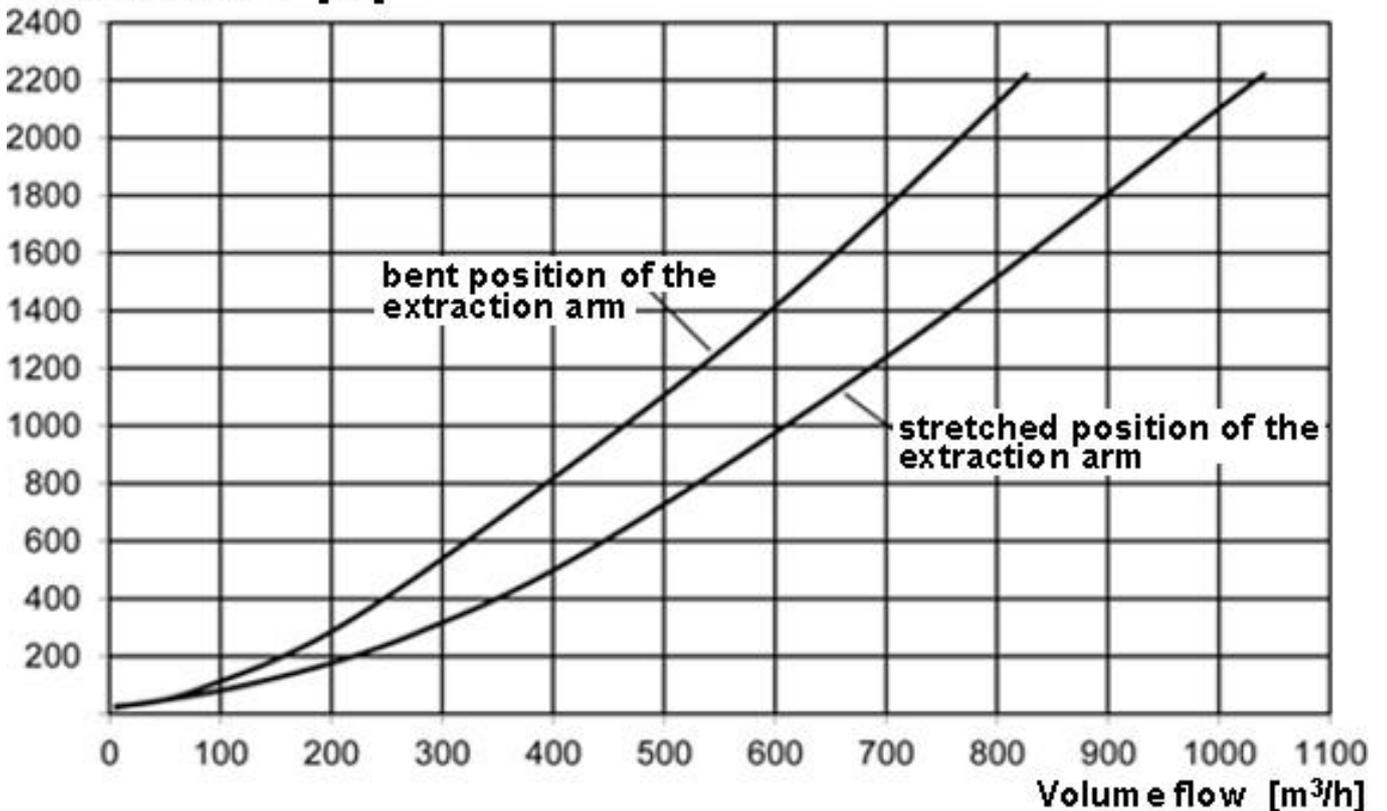
	Type	P [mm]	Application	Weight [kg]
	DST	~ø410	hood DST	0,15
	LST	~ø360	hood LST	0,10
	MKST	~ø320	hood MST hood KST	0,08
	LLT	~ø360	hood LLT	0,09
	DLT	~ø410	hood DLT	0,14

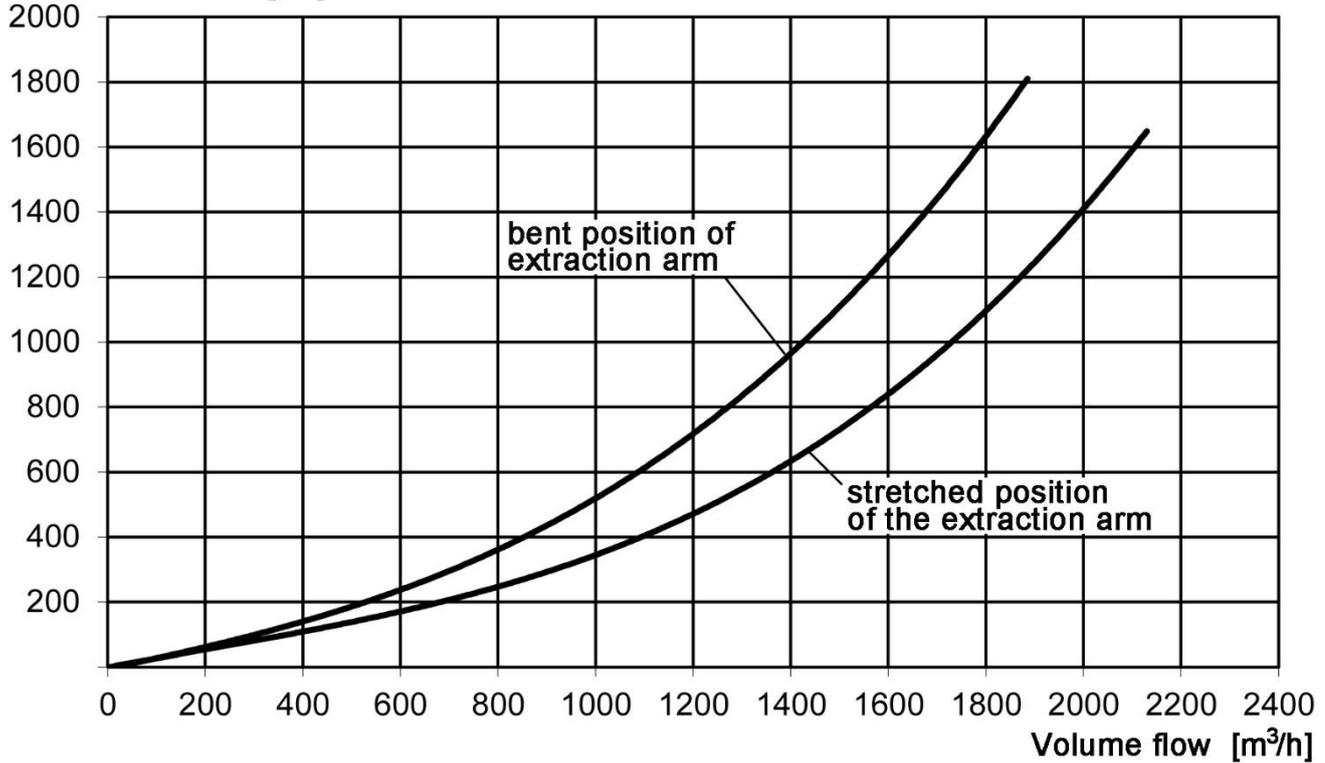
Table No.5 – Wall bracket – additional element of the device

Sort of the bracket	Material	Type	S [mm]	Masa [kg]	Cooperating extraction arms
	steel sheet	WBN-125-K	250	3	ERGO LUX-M ERGO LUX-K
		WBN-160-L	320	4,6	ERGO LUX-L
		WBN-200-D	340	6,1	ERGO LUX-D

4.1 – Flow charts of the ERGO LUX extraction arms
ERGO LUX-M
Flow resistances [Pa]

ERGO LUX-K
Flow resistances [Pa]


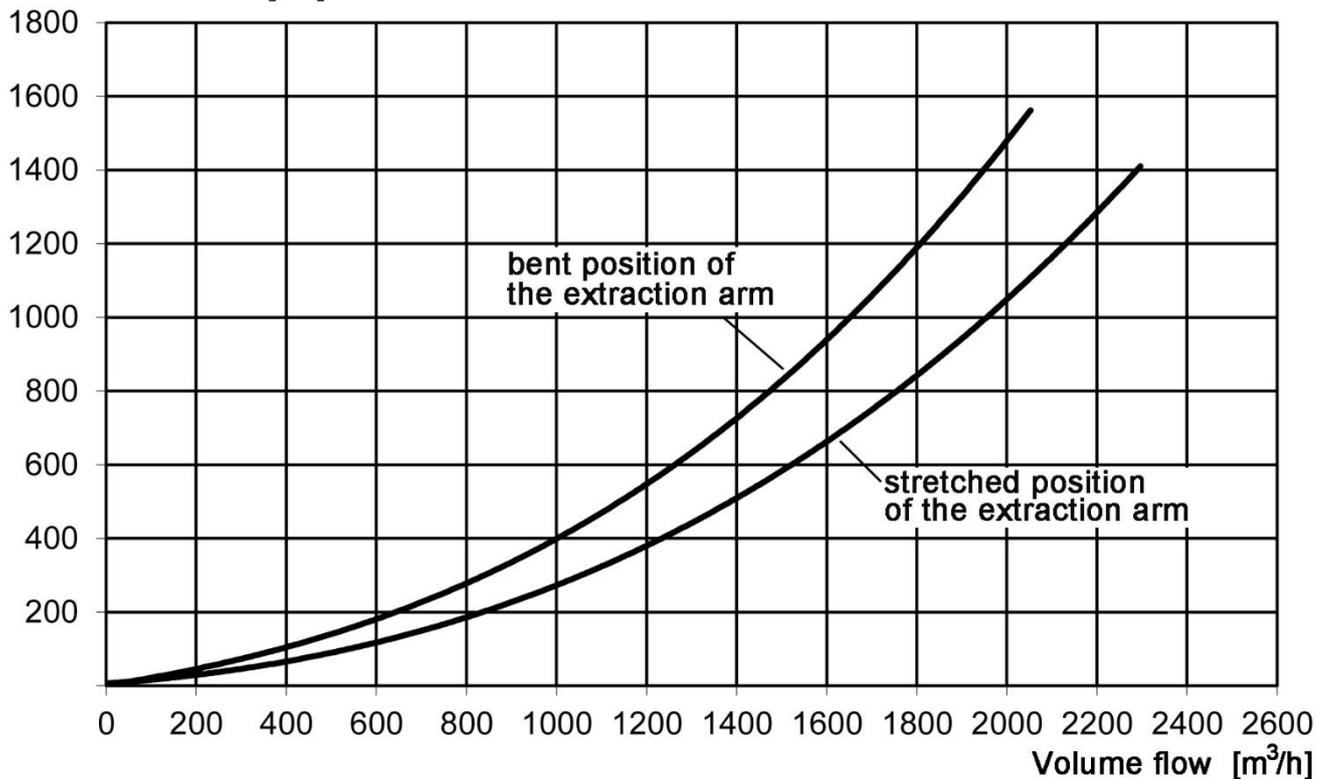
ERGO LUX-L

Flow resistances [Pa]



ERGO LUX-D

Flow resistances [Pa]



CAUTION: The bent position of the arm – angle 45° in the middle joint

5. Structure and Function

Structure of the ERGO LUX extraction arms is illustrated in Fig. No.1. They consist of subsequent elements:

- two arms (duct segments) connected with frictional joints,
- gas springs – to equilibrate the weight of the duct segments,
- plastic hood – with the inlet wire-mesh – to protect the inlet from entering the glowing cigarette butts (embers) and spatters into the extraction arm.
- adjustment shut-off damper,
- swivel – with an integrated tight cut-off damper, as additional equipment.

The swivel guarantees full rotation of the whole extraction arm around its vertical axis and, additionally, provides easy device positioning in the requested point within the work area, during the use.

The swivel and the pipe segments, integrated together with hose sections (flexible connectors), along with the hood and swivel are forming a ventilation ducting functioning for extraction the dust laden air.

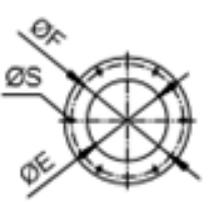
This suction duct configuration can be changed within the work range of the given type of the extraction arm.

Frictional joints and gas springs provide the comfort of easy manoeuvring with the whole extraction arm. The suction hood can be equipped with a halogen spot-light that can be turned on by means of a switch on the hood. The lamp lights up the field of operation.

The extraction arm is installed to the wall or a supporting column, by means of a wall bracket. Moreover, it can also be suspended at the end of the RO-type extension arm (for the details see Use and Maintenance Manual “Extension arms RO” or adequate catalogue cards).

6. Assembly and Start-up

Table No.6 – Diameters and mounting hole patterns in the swivel

	E [mm]	F [mm]	S [mm]	Application
~ ø110	ø155	6xø6,5	6xø6,5	ERGO LUX-M/1,5; ERGO LUX-M/2; ERGO LUX-K/2; ERGO LUX-K/3
~ ø160	ø194			ERGO LUX-L/2; ERGO LUX-L/3; ERGO LUX-L/4
~ ø195	ø246	8xø8,5	8xø8,5	ERGO LUX-D/2; ERGO LUX-D/3; ERGO LUX-D/4

Extraction arms are delivered in cardboard packages, in a partly assembled state. Before the extraction arm is installed at the workplace – it is important to put the extraction arm together into a form of a completely assembled structure – according to the enclosed assembly instruction (see page 13 of the present Use and Maintenance Manual).

Wall brackets, (by means of which the extraction arms are mounted), are delivered on separate order. The diameter and distribution of the mounting holes in the bracket and in the arm swivel are identical.

Do not install the ERGO LUX extraction arms directly to the ventilation ducting, because they are usually not constructed to carry such charges during the operational use of the device.

START-UP:

- 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 – because the spatters might damage the hood and the suction stream could interrupt the protection gas shield (CO₂, argon).
- The position of the hood and the shut-off damper lever can be changed many times during the work, so User can adjust them best to the current needs.
- After the work is completed – leave the extraction arm in the last used operational position, when it do not cause obstacle to personnel / traffic.
- Switch off the extraction fan (in configuration when the arm cooperates with the extraction system, close the shut-off damper).

7. Operational Use

The appliance does not require additional maintenance operations to work safely. Mainly, the adjustment of the ERGO LUX extraction arm consists in the settings within the frictional joints. The frictional brakes are placed in each joint and their function is to provide the balance and self-supporting properties of the whole extraction arm and to guarantee 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, do not tighten up too strongly, as this might effect in excessive operational wear of the frictional elements and, subsequently the joints would get loose / released automatically.

The placement of the adjustment nuts is illustrated in Fig. No.1, whereas the frictional joint is shown in Fig. No.3.

Maximum admissible vacuum in the system cannot exceed 800 Pa. In case of higher vacuum of the system, (where the ERGO LUX extraction arm is installed), damage of the hoses would occur.

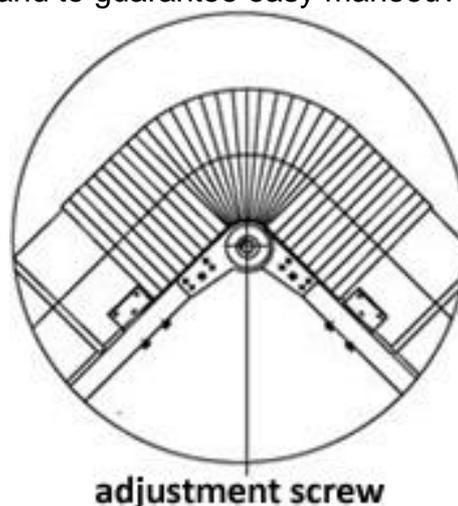


Fig. No.3 – Frictional joint

8. Troubleshooting Guide

	Problem	Possible reason	Corrective action
1.	The extraction arm falls.	Incorrectly adjusted frictional brake of the joint.	Increase the tension upon joint frictional disks of the brake, within the joint by tightening the adjustment nuts.
2.	The extraction arm is automatically setting always in the same position.	The rotation axis of the extraction arm is not positioned vertically.	Carry out the positioning of the mounting flange of the extraction arm.
3.	Drop in the air suction rate along with the increased noise level of the extraction installation with the extraction arm.	Incorrect impeller rotation sense of the extraction fan.	Change the phase connection sequence of the three-phase motor.
		The protective wire-mesh inlet grill is clogged.	Clean the wire-mesh inlet grill using a wire brush.

9. Maintenance

Maintenance activities consist in following steps:

- Periodically, clean the hood surface and the inlet wire mesh of the deposited dust and impurities to provide proper flow of the extracted air. In case of welding dust, rinse the hood additionally with the anti-spattering preparation (to avoid gluing up the welding chipping on the on the hood surface).
- Undertake the adjustment of its joint system in case when the extraction arm loses its self-supporting properties.
- 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 technical revision and repair / or replace the the spotted faulty element.
- Clean the internal surfaces of the extraction segments from the deposited impurities. Frequency of these steps depends on the intensity of use. **Within a period of 3 months, it is recommended to examine the pollution state and undertake cleaning when necessary.**

10. Occupational Health and Safety

Prior to start and use, it is important to get acquainted with the present Use and Maintenance Manual.

The ERGO LUX extraction arms will not cause any hazard under the condition that they are firmly and correctly mounted to the wall or another structural element of the building.

Unsure mounting could result in an uncontrolled detachment of the device and would cause serious hazard 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 / barrier to personnel, set in into the home position.

Prior to installing check the load carrying capacity of the building structure.

11. Transport and Storage

Extraction arms ought to be stored and transported in partly assembled state and in special packages (designed for this purpose).

During the transport and reloading protect the device from damage, scratching, indentations and pay attention that the markings would not get detached / obliterated.

Store the extraction arms in dry rooms and areas of efficient ventilation.

12. Terms of warranty

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

- mechanical damage and dysfunctions caused by User,
- device failures caused during use which was in contradiction with the purpose of operational use and the present Use and Maintenance Manual,
- damages being effected during improper transport, storage or incorrect maintenance,

Infringement of the section 3 “Reservations of Producer” of the Use and Maintenance Manual and especially modifications undertaken by User on one’s own shall result in the loss of warranty validity.

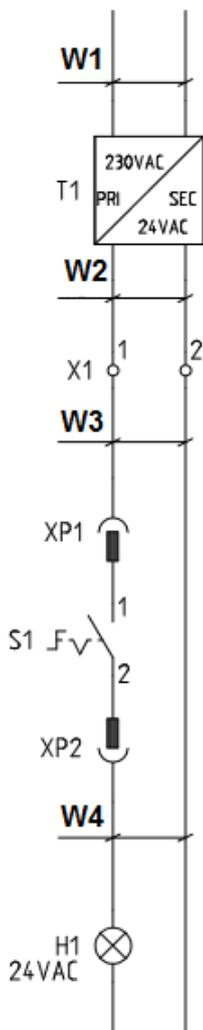
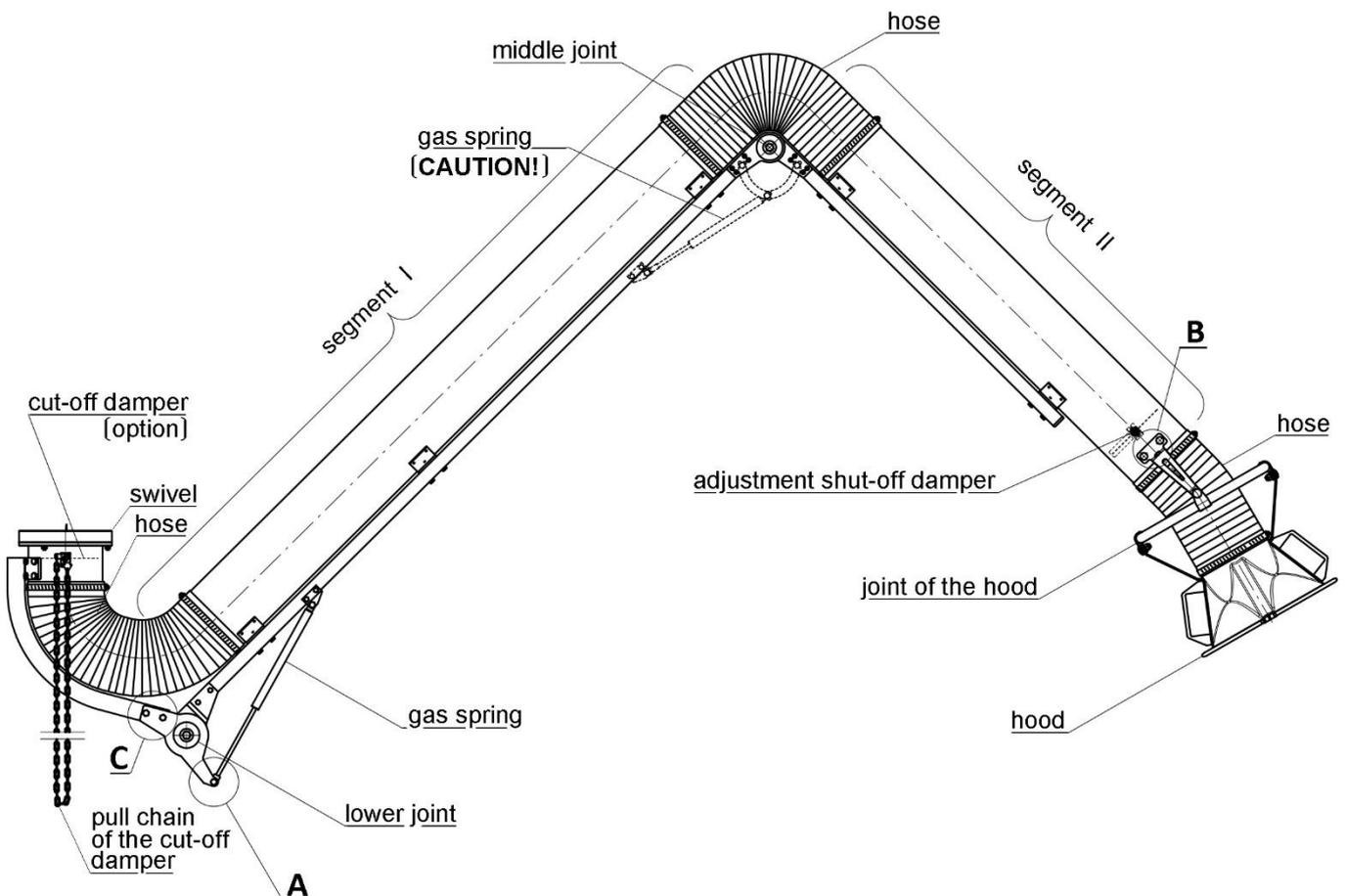


Fig. No.4 – Connection diagram of the halogen lamp

ASSEMBLY INSTRUCTION – EXTRACTION ARMS TYPE ERGO LUX-{M, K, L, D}

1. Take out the ERGO LUX extraction arm from the transport package and put it stably on the even surface.
2. Pull the arm segments apart to enable further assembly.
3. Screw up the swivel support, to the plate of the lower joint – according to the information in Fig. No.5 Detail “C”.
4. Fold in the loose hose fabric edge (to even it up), at the end of the hose – then sleeve the hose onto the swivel ferrule and secure it with a hose clamp.
5. Screw together the terminations of the gas spring with a plate of the lower joint – according to the Fig. No.6 Detail “A” (see also Photo No.1).
6. Connect the **segment II** with the **segment I** using a hose – according to information in the Clause 4.
7. Screw up the element of the hood joint, with the pipe – according to the information in Fig. No.6, Detail “B”.
8. Using a hose, connect the **segment II** with the hood – according to the information in the Clause 4.
9. Install the ERGO LUX extraction arm at a wall bracket or to a device (see Photo No.1).


Fig. No.5
CAUTION:

In case of extraction arms **ERGO LUX-L-4**, **ERGO LUX-D-3** and **ERGO LUX-D-4** in the middle joint, is introduced the additional gas spring.

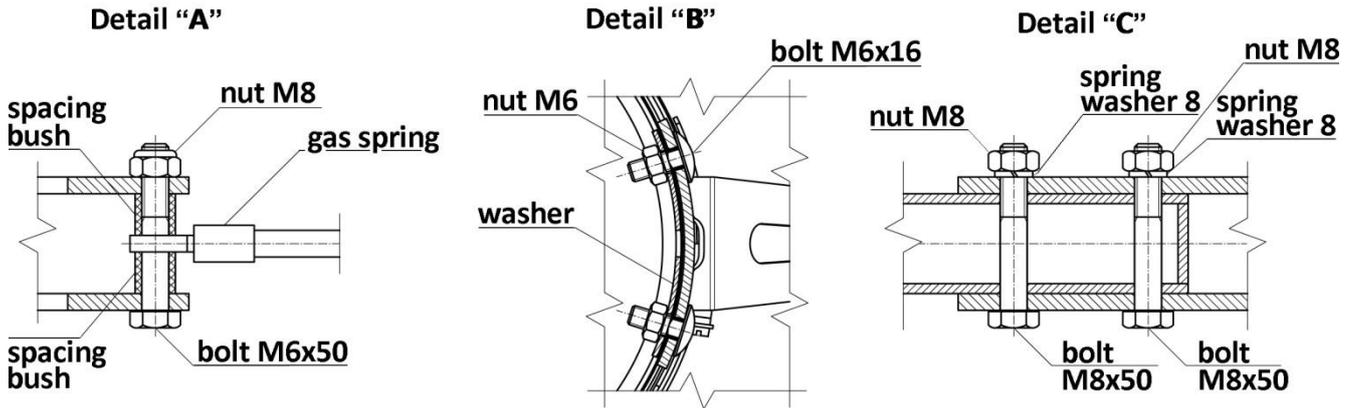


Fig. No.6 – Assembly instruction of the extraction arms type ERGO LUX-{M;K;L;D}

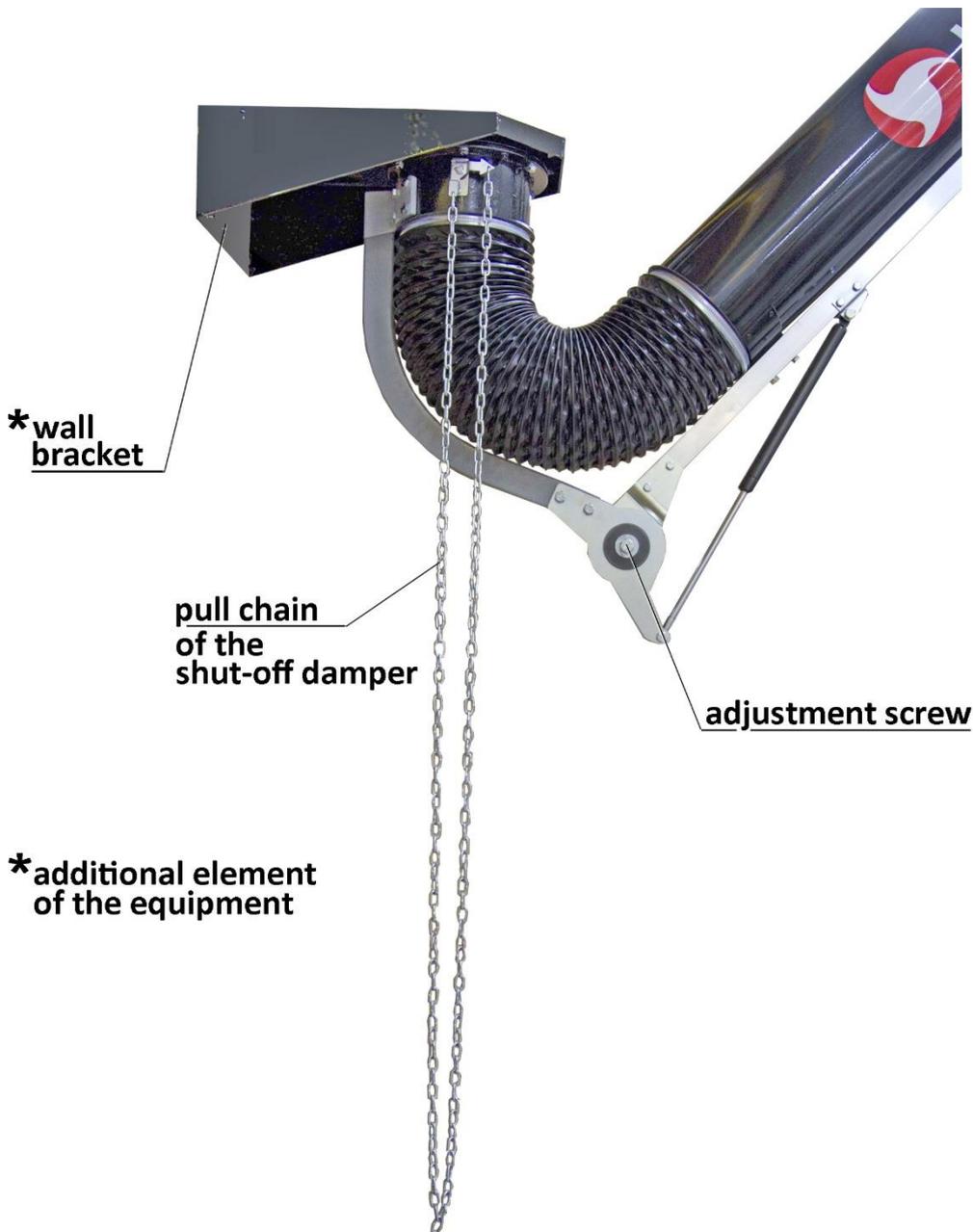


Photo No.1 – Wall bracket

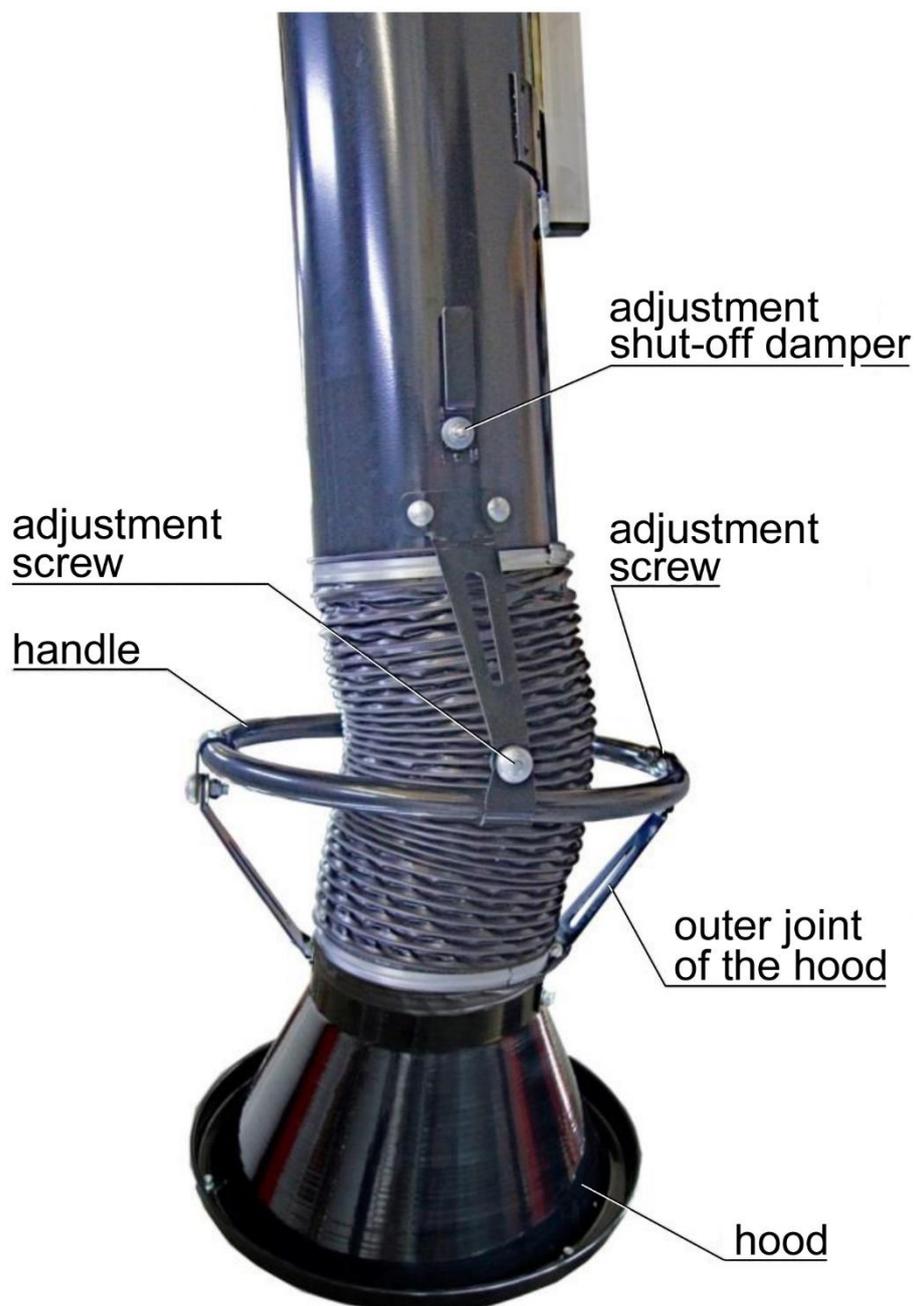


Photo No.2 – Hood

In case when the extraction arm is installed at the wall bracket, it is important to level the mounting plane of the wall bracket during its installing to the wall (see Phot No.1).

If the bracket mounting plane is not horizontal, the extraction arm would tend to set (turn) itself always in the same position, and it is difficult to adjust the arm position.

13. Sample of the Declaration of Conformity

Declaration of conformity EC No.

Manufacturer (eventually the authorized representative / importer):

name: **KLIMAWENT S.A.**

address: **81-571 Gdynia, Chwaszczyńska 194**

A person, authorized for issuing the technical documentation: Teodor Świrbutowicz, KLIMAWENT S.A.

hereby declares that the appliance:

name: **Hanging Extraction Arm**

type/model: **ERGO LUX**

serial number: year of production:

meets the requirements of the subsequent European Directives:

- **2006/42/EC Machinery Directive** of the European Parliament and of the Council of May 17th, 2006 on machinery – amending the 95/16/EC (recast) /*Journal of Laws EC L157 of 09.06.2006, page 24*

The appliance meets following harmonized standard:

- **EN ISO-12100:2012** – “Safety of machinery – Basic concepts, general principles for design. Risk assessment and risk reduction”.

.....
place, date

KLIMAWENT S.A.

Supported Employment Enterprise

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.....
signature of authorised person

District Court Gdańsk-Północ

in Gdańsk, VII Wydział Gospodarczy

of the National Register of Court

KRS 0000308902 company stock

13.779.200 zł paid in total

.....
name, surname, function
of the signatory

NIP: 958 159 21 35

REGON: 220631262

Bank Account: **Santander Bank Polska S.A.**

56 1500 1025 1210 2007 8845 0000

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**Producer:****KLIMAWENT S.A.****81-571 Gdynia, ul. Chwaszczyńska 194****tel. 058 629 64 80****fax 058 629 64 19****e-mail: klimawent@klimawent.com.pl****www.klimawent.com.pl**

810R70	ERGO LUX-M-1,5	10.01.2019/EN
810R71	ERGO LUX-M-2	10.01.2019/EN
810R72	ERGO LUX-K-2	10.01.2019/EN
810R73	ERGO LUX-K-3	10.01.2019/EN
810R74	ERGO LUX-L-2	10.01.2019/EN
810R75	ERGO LUX-L-3	10.01.2019/EN
810R76	ERGO LUX-L-4	10.01.2019/EN
810R77	ERGO LUX-D-2	10.01.2019/EN
810R78	ERGO LUX-D-3	10.01.2019/EN
810R79	ERGO LUX-D-4	10.01.2019/EN
809R02	ERGO LUX-LL-2	10.01.2019/EN
809R03	ERGO LUX-LL-3	10.01.2019/EN
809R04	ERGO LUX-LL-4	10.01.2019/EN
809R05	ERGO LUX-DL-2	10.01.2019/EN
809R06	ERGO LUX-DL-3	10.01.2019/EN
809R07	ERGO LUX-DL-4	10.01.2019/EN