

Operating Instructions

Atmos Compact Vers.: 1.13

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1. General Information

The operating instructions are a substantial assistance for the successful and safe operation of the Atmos Compact.

The operating instructions contain important notes, in order to operate the Atmos Compact safely, properly and economically. Their attention helps to avoid dangers, to decrease repair costs and down-times and to increase the reliability and the life span of the Atmos Compact.

The operating instructions must be constantly available at the Atmos Compact and has to be read and used from each person, who is assigned to work with/and on the Atmos Compact e.g.:

- operation, disturbance recovery in the work routine, disposal of operating and auxiliary materials,
- maintenance (maintenance, care, repair) and/or
- transport.

1.1 Service and Warranty

The Trotec Produktions - Vertriebs GmbH is endeavoured to work on your questions and order as fast as possible. We ask you to indicate your names as acknowledging address as well before each inquiry.

The warranty of the manufacturing firm for the Atmos Compact extends within the implied warranty period to damage, which can be proved on construction – to lead back material or production defects.

The time of warranty begins with the delivery e.g. start-up time of the Atmos Compact.

A warranty is transferred only in its entirety if:

- the distribution inspection, the delivery and the instructions are implemented correctly,
- the Atmos Compact is for intended use only,
- the maintenance and servicing instructions be strictly obeyed (with dirty turbine no warranty claim exists).

In the case of a warranty the manufacturing firm transfers the material costs, which result directly from the remedy at the Atmos Compact.

Only spare part prices and the fee of the current price list is valid.

We refer to the regulations as well as the general trading conditions of the Trotec Produktions- u. Vertriebs GmbH.

2. Safety

2.1. General Information

These operating instructions are a substantial component of the Atmos Compact. The operator ensures that the operating personnel take these guidelines to the knowledge.

Since the operating instruction is presumably exposed to a strong demand at the place of work of the Atmos Compact, it is incumbent on the operator:

- to keep the original safe,
- to concern for the fact that a copy of the operating instructions is constantly available at the Atmos Compact,
- that each user reads the operating instructions attentively and considers and follows all instructions.

The operating instructions are to be supplemented around operating instructions due to the existing national regulations for accident prevention (BGV D27) and to the environmental protection, including the information of the duty to supervision and obligations to register, the consideration of operational characteristics e.g. regarding working particularity relating to the work sequences and assigned personnel by the operator.

Beside the operating instructions and the in the user country and at the employment place valid obligatory regulations for accident prevention are to be considered also the recognised specialised technical rules for security and professional working.

After one year at the latest the examination of the Atmos Compact is to be made by experts. The test report is to be documented in writing.

The operator/user may not make changes at the Atmos Compact, which could impair security, without permission of the manufacturing firm! This applies in particular to the installation and the attitude of safety devices.

Spare parts must correspond to the technical requirements specified by the manufacturing firm. This is always ensured with original spare parts.

Only trained or instructed personnel may work on/with the Atmos Compact. Specify the competencies of the personnel for serving, controlling and repairing clearly!

Operating staff to be trained may become active only under constant supervision of an experienced person at the Atmos Compact.

The maintenance of the Atmos Compact may take place only via particularly trained personnel of the Trotec Produktions- u. Vertriebs GmbH and/or a service company authorised in addition.

2.2. Instructions and Training

As operator of the Atmos Compact you are obliged to inform and/or to instruct the operating/maintenance staff about existing rules for the prevention of accidents and on the rights as well as about existing safety devices to and around the Atmos Compact. Different technical qualifications of the personnel are to be considered.

The operating/maintenance staff must have understood the instructions and it must be guaranteed that the instruction is considered.

Only in such a way you can achieve security and the danger-conscious working of your staff. Each co-worker should confirm the participation in the training course and instructions in writing.

2.3. For your Security

As operator of the filter system Atmos Compact please, consider absolutely the data given in the CE manufacturer explanation, CE - declaration of conformity, the data and information in the user manual and in particular the operating and safety instructions.

Residual risk

Filter systems and suction units contain inflammable construction parts (filter material, seals, plastic parts, etc.). Consider in your work place evaluation after the law for employee protection (AschG) the residual risk of a case of fire. It is important to have **the approval of us with changes** in the use of the filter system **in writing**.

CE – Declaration of conformity

As a rule we deliver the filter system with a CE - declaration of conformity. When assembled with other parts it becomes a higher - ranking filter system for which you, as operator, have the duty to make a danger analysis and you must provide a CE - declaration of conformity for the whole filter system.

Duty of information

Sparks, cigarette stubs or similar may not be sucked into the filtering device.

Our plants may be used only as in the operating manual described and as intended. Changes in the use require our express written permission.

Each use going beyond it is not considered as intended, the manufacturer / supplier can not be made liable for developing damages which result from it. The risk carries the operator.

Intended use of the filter system Atmos Compact

It is not allowed to suck off dust, smoke, gases and media which do not correspond with the chapter 2.4 in this operating instruction. The media exhausted may be classified in no dust explosion class (St-Class).

Start-up, maintenance work and service

Refer to maintenance and safety instructions in the operating manual.

All repair and maintenance work may only be carried out with complete stand still of the machine/plant (separate all poles by switching off from the mains; pull the plug out of the socket). Only trained and authorised personnel may operate, make maintenance work service at the machine/plant. Work within the electrical range may be implemented by authorised specialists only!

The Atmos Compact must at least annually be examined per § 32 1-4 GKV.

2.4. Intended Use

The Atmos Compact of the Trotec Produktions- u. Vertriebs GmbH exclusively serves for sucking off gases and smoke with pollutants, which is developed with:

- Stamp production
- Marker/sign production, and engraving procedure

No statements can be made for other fields of activity than in this operating instructions specified regarding the endangerment of humans and environment. No overall statement can be made to the suitability of the Atmos Compact, if loaded gases and smoke with pollutants in another than here mentioned purposes are sucked off.

In this case the Trotec Produktions- u. Vertriebs GmbH is to be addressed; otherwise any warranty claim is void.

Consider also while handling dangerous material the rules for the prevention of accidents and here in particular the safety rules for extractor equipment for air pollution control on the job, ZH 1/140.

The Atmos Compact may be operated only with accessory/with the equipment which are intended and approved from the Trotec Produktions- u. Vertriebs GmbH. The data in chapter 3.4 technical data are to be considered and kept.

Valid as not intended is the extraction of:

- damp, liquid or vaporous materials,
- explosive or inflammable gas/material/material air mixtures,
- in air-impermeable layers crystallising materials,
- sticky or statically responsible materials or
- incandescent or burning substances.

Another or beyond it going use, e.g. as an industrial extractor is considered as not intended.

If gases and smoke on production conditions are to be extracted, in the course of which carcinogenic materials after BIA TRGS 900 are developed and/or be contained, you may not use the Atmos Compact! Alone the operator of the Atmos Compact is responsible for the from not intended use resulting damage. This implies arbitrarily accomplished changes on the Atmos Compact.

Imperfect construction unit/spare parts are to be exchanged immediately. Use only original spare parts. In particular with non original filter devices it is not ensured that they filter the pollutants from the extracted gas/smoke completely!

To the intended use also belongs keeping the references:

- for safety,

- to the operation,
- to maintenance and servicing

which are described in this operating instruction.

2.5. Residual risk

Also with attention to all safety regulations a residual risk remains with the operating of the Atmos Compact.

All persons, who work on and with the Atmos Compact, must know these residual risks and must obey the instructions, which prevent, that these residual risks lead to accidents or damage.



By the inhalation of poisonous gases and types of dust poisoning damage can occur. Likewise long-term damage can occur to internal organs by repeated inhalation, sips and contact with gases and dust contained in the filter-unit and suction hose itself.

Before all work on the inside of the Atmos Compact, in particular at the filter devices as well as on the dust extraction hose the personal protect equipment is to put on.

In addition belongs:

- 1.** Protection gloves (one-way gloves from polyethylene, long version),
- 2.** Protection mask (purifying dust respirator with examination of the protection stage 3),
- 3.** Eye protector.

2.6. Safety References for the Operation of the Atmos Compact

The Atmos Compact may be used only in technically perfect condition and as intended. Safety and danger-consciously considering of this operating instruction is supposed! All disturbances in particular such, which can impair security, are immediately to be eliminated!

Each person, who is assigned to the assemble, start-up, maintenance or repair at the Atmos Compact, must have completely read and understood this operating instruction, in particular the chapter security before beginning with the operation. During the work it is too late.

This applies in particular to personnel used only occasionally at the Atmos Compact.

Each person, who is assigned to work on the Atmos Compact, must confirm by signature that he/she read and understood the operating instructions before first handling the Atmos Compact.

Work on the Atmos Compact may be accomplished only by reliable personnel. The legal permissible minimum age must be considered!

Use only trained or instructed personnel!

Personnel in training or in the context of general training, personnel who is to be trained may become active at the Atmos Compact only under constant supervision of an experienced person!

The operating instructions must be at hand constantly at the Atmos Compact.

For damage and accident by neglecting the instructions no responsibility will be taken over.

The relevant rules for the prevention of accidents as well as the other general recognised safety-relevant rules according to industrial medicine are to be kept.

The competencies for the different activities in the context of the operation, the maintenance of the Atmos Compact must be clearly fixed and kept. Only then miss-actions in particular danger situations can be avoided.

The operator has to obligate the serving and maintenance staff to carry personal protection equipment. In addition protection gloves, purifying dust respirator mask. This affects in particular the change of the filter!

Are there safety-relevant changes at the operational behaviour or disturbances at the Atmos Compact so it has to be stopped immediately and announced to the competent authority!

Keep first aid facilities (first aid box, eye rinsing bottles etc.) within reach!

Make known the location and operation of fire extinguishers and the possibilities of fire reporting and fire fighting.

Absolutely consider the notes for maintenance, service and safety equipment chapter 7 with maintenance work, servicing or repairing!

With all work which concerning:

- the operating,
- the re-equipment or the adjustment of the Atmos Compact and its safety devices,
- the inspection,
- the maintenance and
- the repairing

consider the turn on and turn off processes in accordance with the operating instructions and the references to the maintenance!

The Atmos Compact only may be operated, if all protection and safety devices e.g. solvable protection devices, housing bolts etc. are on its place and functional!

Before starting up, the personnel have to make itself familiar around the Atmos Compact.

The Atmos Compact may never remain unsupervised during the operation!

At least once per shift the Atmos Compact must be examined for outwardly recognisable damage. Changes (including that of the operational behaviour) have to be announced immediately to the responsible shift leader and/or the plant manager.

Stop and secure immediately with malfunctions at the Atmos Compact. Disturbances are to be eliminated immediately through trained specialists.

2.7. Safety References to the Maintenance

Before beginning inform the operating personnel about the execution of special- and maintenance work.

Keep the periods for tests/inspections prescribed in these operating instructions.

For the execution of maintenance work appropriate workshop equipment is absolutely necessary.

Illuminate maintenance ranges, to the extent necessary, additionally with hand or stand lamps.

For Maintenance or repair the Atmos Compact must be switched off and secured against unexpected restarting, by:

- switching off at the circuit breaker and afterwards
- disconnecting the device from the mains by pulling out the plug of the mains cable.

After switching off/stopping the Atmos Compact wait for the stop of the turbine.

To avoid current impacts do not open electrical construction units as well as housings and covers. Work on electrical equipment may be made only by trained specialists!

Do not touch damaged, torn life (voltage) parts.

Make no program modifications at programmable control systems. Modifications at programmable control systems may only be made after consultation and with the permission of the Trotec Produktions- u. Vertriebs GmbH.

Work on electrical equipment may be made only by trained specialists or by personnel who is to be trained under constant supervision of a trained specialist!

Check regularly for damage on cable and hose connections, particularly such at mobile construction units, and if necessary exchange.

Exchange the filter in the indicated and/or in appropriate time/intervals, even if no safety relevant lack is recognisable!

Tighten always again solved screwed joints with maintenance and repairs!

If the disassembly of safety devices is necessary with servicing or repairing, the assembly and examination of safety devices must take place immediately after conclusion of maintenance and repair work!

At the beginning of maintenance/repair/care the Atmos Compact, and here in particular connections and screw connections are to be cleaned of all contamination and residues, e.g. dust, fuels or preservative agents.

Do not use aggressive cleaning agents containing solvent. Do not use organic solvents, since fire and danger of explosion exists! Use only mild cleaning agents on water basis. Consider the data of the manufacturers.

Use lint free cleaning cloths.

Provide for safe and environmental careful disposal of operating and auxiliary materials as well as replacement parts!

2.8. Referring to Special Danger Kinds

2.8.1. Electricity

Work on the electrical equipment of the Atmos Compact may be made only by an electrical specialist or personnel instructed by/under line and supervision of an electrical specialist, in accordance with the electrical rules!

It must always be waited five minutes after switching off, for the inserted condenser in the control board to unload themselves. Opening of the housing is only permissible at the end of this time.

Do not use the Atmos Compact when the mains cable is damaged, replace it immediately (see: spare part list).

Use only original fuse/original safety devices with prescribed amperages!

Never accomplish work on live parts!

With repairs pay attention to the fact that constructional characteristics are not to be safety reducing changed in particular: allowed air creeping and air clearance as well as distances are not to be made smaller by isolations.

The perfect grounding of the electrical system must be ensured by a protective grounding system.

With disturbances at the electrical power supply, separate immediately the Atmos Compact from the net, by:

- switching off the Atmos Compact at the transparency keyboard and thereafter
- disconnecting the plug from the mains.

2.8.2. Types of Dust and other chemical Substances

With the Atmos Compact partial toxic types of dust from contaminated air are filtered. Depending upon the kind of the assigned materials these types of dust can be health-endangering and/or carcinogenic.

While handling toxic types of dust special caution is required.

Consider and keep valid regulations and safety data sheets of the manufacturers concerning storage, handling, employment and disposal, while handling chemical substances.

With eye or skin contact with the types of dust in the filters or the suction hose the part concerned must be flushed immediately with much water. Suitable mechanisms (eye wash bottle, wash basin, shower) must be available at hand!

By cleaning and disinfectants loaded skin should be maintained after washing. Irritation can be avoided by the preventing use of skin protection means and a suitable skin care. The preservative agent who can be used is to be selected as a function of the pollution impact and the individual condition of the skin. Containing fat preservative agents are predominantly applicable.

Eating, drinking, smoking and keeping food in areas, in which chemicals are, is forbidden!

Keep dangerous materials never in bottles or containers for food. Mark always clearly for the respective material use certified containers.

Depending upon pollution impact particle and gas filters are subjects to the special hazardous waste regulation and are to disposed accordingly.

The inappropriate exchange of the pollutant-loaded filter-units represents a health risk for the implementing persons and their environment. Consider therefore with the exchange of the filter parts absolutely the section 8, maintenance in this operating instruction.

2.8.3. Noise

The A-weighted one equivalent continuous sound pressure level on the operation job of the Atmos Compact lies during normal operation below 68 dB(A), depending upon type of device.

Dependent on the local conditions a higher sound pressure level in the surrounding field of the Atmos Compact can prevail. This increased sound pressure level can be caused by neighbouring machines and may cause deafness.

3. Product Description Atmos Compact

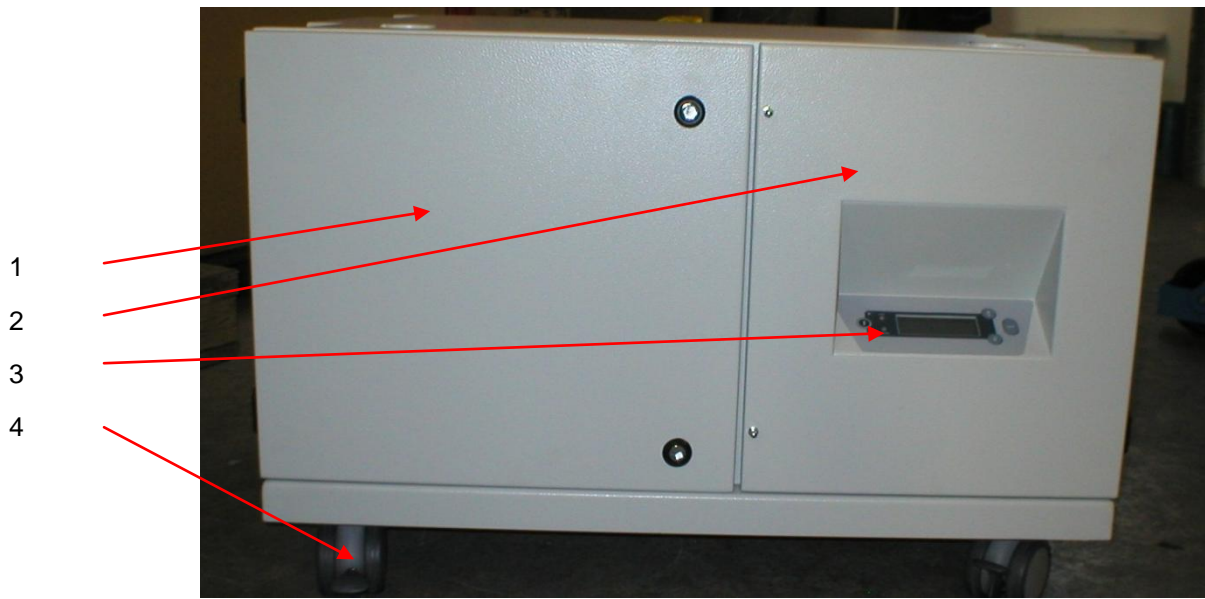


Fig. 1

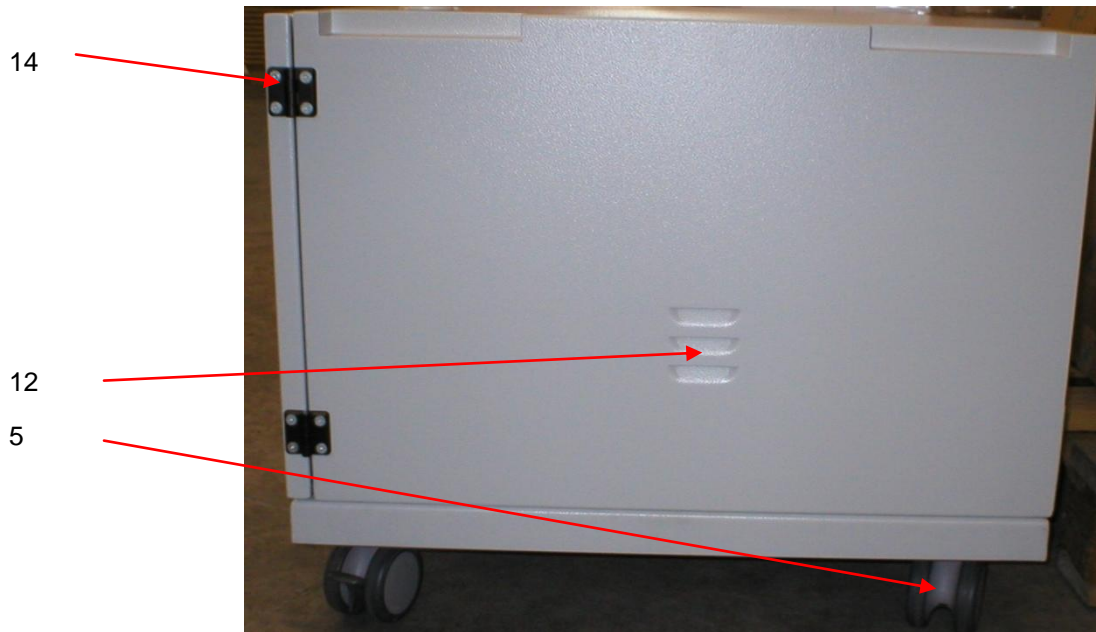


Fig. 2

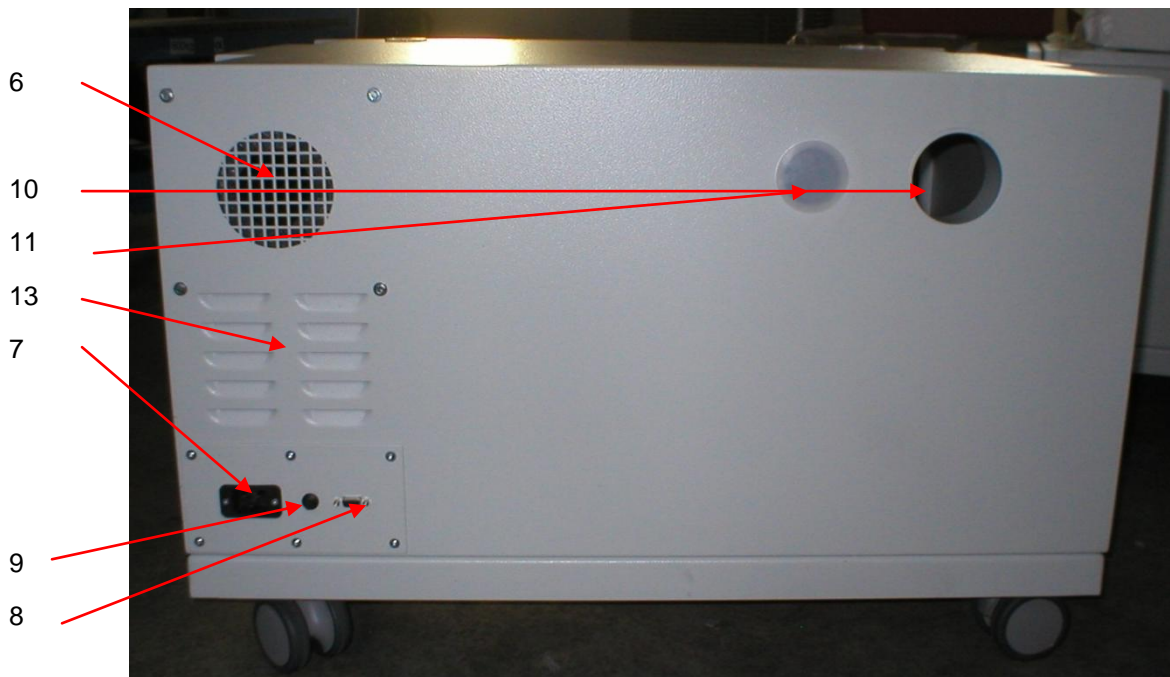


Fig 3

Pos. 1	Covering: Filter unit	Pos. 8	Sub-D9 connection
Pos. 2	Covering: Turbine unit	Pos. 9	Fuse push button
Pos. 3	Transparent announcement transparency keyboard	Pos 10	Extraction tube NW 70
Pos. 4	Guiding roller with brake	Pos. 11	Extraction tube NW 45
Pos. 5	Guiding roller	Pos. 12	Turbine cooling air intake
Pos. 6	Exit grille	Pos. 13	Turbine cooling air exit
Pos. 7	Mains connection	Pos. 14	Hinge black

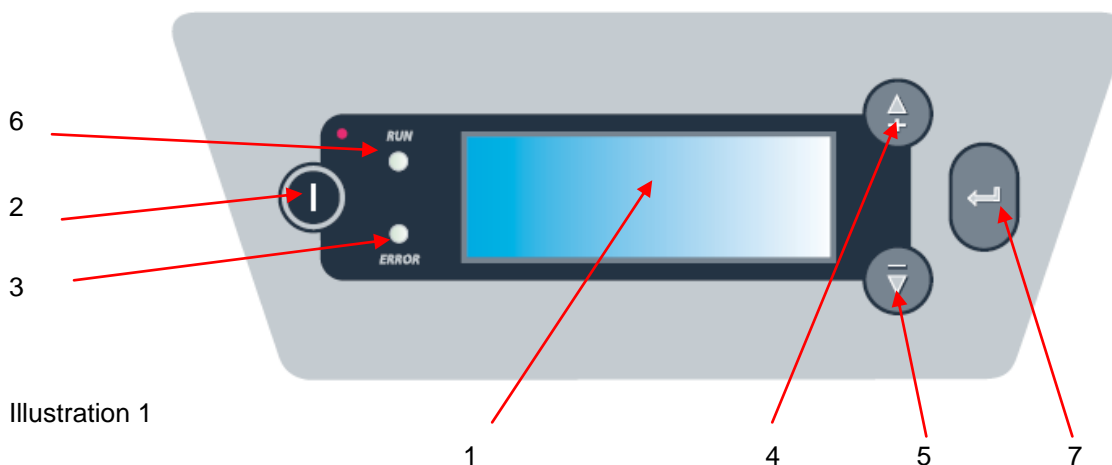


Illustration 1

Pos. 1	Transparent announcement	Pos. 2	Key ON/OFF
Pos. 3	LED-announcement "Filter full"	Pos. 4	Key +
Pos. 5	Key -	Pos. 6	Announcement: "Run"
Pos. 7	Key ENTER		

3.1. Description of Function

The Atmos Compact serves for extraction of gases and smoke loaded with pollutants with a connected suction hose between the machine, which can be exhausted, and the Atmos Compact.

The Atmos Compact is switched on and/or headed for either at its transparency keyboard or by the controlling of the machine which can be exhausted (remote switching mechanism).

The gas/smoke is sucked in by the suction hose into the filter housing with the assigned filter-unit.

The Atmos Compact consists of the following filter stages:

- Pocket filter and
- Activated carbon filter.

The contaminated air is sucked in through the filter by the turbine. The cleaned air is blown out through the exit grille, attached on the side, into the ambient air.

3.2. Connection to External Control

For the operation of the Atmos Compact with a remote switching mechanism a control cable with a Sub-D9-plug is needed. The pin allocation of the Sub-D9-plug (see in section 5,1) is to be considered!

3.3. Protective Device

The Atmos Compact is equipped with protection device, in order that with intended use of the Atmos Compact no dangers for security and health of the operator and/or third exist.

The entire Atmos Compact is designed and manufactured according to the current state-of-the-art and the recognised safety-relevant rules. In order to ensure the safe operation for personnel and environment, the precautions/safety devices described in the following were taken and/or installed.

Unauthorised removing or bridging (go around) of protection device represents a punishable action. In the case of loss each liability claim expires.

The turbine is secured by a door, which can be opened only with tool.

All elements of the control systems place themselves with power failure into a safe condition for operators, Atmos Compact and environment.

All live construction units are secured against contact (isolated) and with sufficient estimate distance installed. Live building groups are built in the turbine case, which can be opened only with tool.

All electrical construction units carry the CE characteristic for low-voltage and/or EMV.

For the grounding of the Atmos Compact a potential equalisation ($\varnothing > 1.5 \text{ mm}^2$) of all leading components is installed.

The Atmos Compact is implemented according to the type of protection IP 40.

Electrical connection diagrams with associated parts lists are to be found in the appendix.

3.4. Technical Data Atmos Compact

Product description:	Atmos Compact for Speedy 100 / 300
Housing:	Breadth 815 mm Height 555 / 520 mm Depth 675 mm
Surrounding:	Surrounding temperature, perm. + 5 °C to + 35 °C Relative air humidity max. 65 %
Motor related data 115 V	Max. air-flow 320 m ³ /h Power of the motor 0,8 kW Max. negative pressure 5.800 Pa
Current 115 V	Connection Voltage 120 V / 50/60 Hz Type of current 1 Ph Control voltage 24 V Type of protection IP 40 ISO-Class F
Motor related data 230 V	Max. air-flow 320 m ³ /h Power of the motor 1,2 kW Max. negative pressure 8.500 Pa
Current 230 V	Connection Voltage 240 V / 50/60 Hz Type of current 1 Ph Control voltage 24 V Type of protection IP 40 ISO-Class F
Filter material	
Kind of filter:	Pocket filter
Activated carbon:	About 16 kg
Filter before and behind activated carbon:	Filter mat

4. Transport, Storage and Start Up

4.1. Transport on Wooden Palette

The Atmos Compact is transported on a wooden pallet. The following corridor promotion vehicles are permissible for the transport of the wood pallet:

- Fork lift and
- Fork truck.

Hard impacts of the Atmos Compact (e.g. on the loading area of a transport vehicle) must be avoided when setting off.

Secure the wood pallets with the Atmos Compact in the case of transport against tilting.

Consider the valid accident prevention and industrial safety regulations.

Consider absolutely danger warnings and information on the packing!

The Atmos Compact and/or the wood pallet with the Atmos Compact is to be secured on the transport vehicle against slipping and tilting.



Information!

Unpack the Atmos Compact only at the place of assembly.

Do not set up the Atmos Compact in direct proximity of heating/heating elements.

Consider sufficient area for the exchange of the filter when setting up.

Proceed when unpacking and setting up the Atmos Compact as follows:

- Lift the Atmos Compact off the wood pallet and/or from the transportation packing only at the place of assembly. Remove the packing carefully.
- Examine the completeness of the supply on the basis of the packing list. If parts should be missing or supplied wrongly, contact immediately the Trotec Produktions- u. Vertriebs GmbH. The same applies to transport damages.
- In addition do examine the complete supply for outside damage, which may have developed e.g. in the case of transport.
- Transport the Atmos Compact afterwards attentively and prudently on its guiding rollers up to the place of assembly.
- Set up the Atmos Compact to even, firm underground.
- Always check that the Atmos Compact stands secured and that the guiding roller's brakes are set.
- Set up the Atmos Compact in such a way, that the attached suction hoses between the Atmos Compact and machine which can be exhausted do not lie in through ways and/or generally do not have to be exceeded.

4.2. Scope of Supply

Examine with the delivery of the Atmos Compact the scope of supply in every detail and announce immediately if parts are missing or should be damaged. Later complaints are not accepted.

To the regular scope of supply belong:

- Atmos Compact, completely (with inserted filter-unit); mains cable (cold equipment cable);
- Inserted filter (with activated carbon, filter-mats and pocket-filter)
- Blind cover (inserted in the extraction inlet NW 50)
- Hose kit NW 70.

Please note that the scope of supply can deviate in individual cases from this list. In this case the list in the delivery document is binding.

4.3. Storage and Operating Conditions

The Atmos Compact must be stored at vibration-less, dry and as dust free a place as possible. It may not be stored outside of closed areas.

The air temperature must be in a temperature range between + 5 °C and + 35 °C.

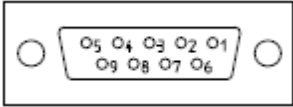
The relative air humidity may not amount to any more than 65 %. The condensation of air humidity on the surface of the Atmos Compact must absolutely be avoided.

5. Start Up of the Atmos Compact

5.1. Connection of an External Control

The Atmos Compact is switched on and/or headed either at the transparency keyboard or by an external/remote control (e.g. the machine which can be exhausted). With the manual switching on, push ON/OFF key about 0,5 seconds.

At the Atmos Compact the connection of the remote control is made by a nine-pole cable with Sub-D9-plugs.

Illustration	Pin	Designation	Declaration
 <p>Connector Sub-D9, device sided</p>	1	Start-/stop contact 24 V DC	Input signal for Start-/Stop contact from the external machine: High: Start contact (24 V DC) Low: Stop contact (0 V DC)
	2	Operational status indicator	Output signal for operation of the filter unit: High: Filter unit is in operation (24 V DC) Low: Filter unit is out of operation (0 V DC)
	3	"Filter full"	Output signal for failure alarm from the filter unit: High: Pocket-filter, activated carbon are correct (24 V DC) Low: Filter, Pocket-filter, activated carbon must be changed (0 V DC)
	4	Increase capacity of the turbine	Input signal of the external machine for increasing the capacity of the turbine: High: Capacity of the turbine rises (24 V DC) Low: Capacity of the turbine remains (0 V DC)
	5	Decrease capacity of the turbine	Input signal of the external machine for decreasing the capacity of the turbine: High: Capacity of the turbine decreases (24 V DC) Low: Capacity of the turbine remains (0 V DC).
	6	24 V DC	Output signal with permanently 24 V DC
	7,8		Not occupied
	9		Common masse for PIN 1 to PIN 6

Schedule 1: Connection of an external control (arrangement of plug contact / connection allocation)

5.2. Connecting the Atmos Compact

Attach the Atmos Compact as follows:

- Connect the mains cable of the Atmos Compact with the power supply.
- If an external control of the Atmos Compact is intended, connect the external control with the Sub-D9-connector at the side.



Fig. 4

- Push the suitable flexible connection tube as far as possible into the extraction opening (on the rear side of the unit).

Examine all connections for a correct and firm seat. After connecting the hose and the examination of the connections, the Atmos Compact can be taken in operation (consider chapter 6).

6. Operation

6.1 Operation of the Control Panel

The operation of the Atmos Compact takes place at its clear view control panel with plain language announcement. All functions of the Atmos Compact can be adjusted here.



Fig. 5: Clear view control panel (Standard announcement)

You will find the following control elements at the control panel:

	Key ON / OFF
---	--------------

The key ON/OFF serves for switching the Atmos Compact on and/or off. When switching on push the key for about 0,5 seconds, the turbine starts audibly and the sucking of the gas/or of the smoke begins

	Key Enter
---	-----------

With this key you arrive the Setup menu which shows the system-parameter, consider chapter 6.3.2.

	Key Plus
---	----------

Adjusting (increase) of the suction volume in steps of 5 m³/h.

	Key Minus
---	-----------

Adjusting (decrease) of the suction volume in steps of 5 m³/h.

	LED Error (red)
---	-----------------

If the LED error shines red, a problem report is given see chapter 6.2.5

	LED Run (green)
---	-----------------

Led run indicates that the Atmos Compact is switched on.

6.1.1 How to Switch the Atmos Compact On / Off

Manual: With the ON / OFF key the Atmos Compact is switched ON manually.

External Control: Start-contact 24V DC, via potential-free contact from the external machine.

6.1.2 Suction Volume (nominal value)

”+“ Key – Press to increase suction volume

”-“ Key – Press to decrease suction volume

When the Mistal is restarted the turbine runs at the last adjusted volume.

6.1.3 Flow-Control - Adjustment Suction Volume

(Definition see chapter 6.3.).

The volume-flow rate (suction volume) is kept constant automatically. The control adjusts the turning speed of the turbine and accommodates itself to changing conditions e.g. filter pollution automatically.

The max. volume-flow rate is preset and not to exceed and will be displayed with “Max Vol”.

We recommend: Select the smallest possible setting to extend the filter life.

It is possible to change the “Max Vol” setting in the set-up menu (see Chapter 6.3.1).

This adjustment is stored even after turning off. The Atmos Compact runs with the same volume-flow rate when restarted.

6.2 Program

LANGUAGES:

German, English

TYPES OF LASER

Select according to your laser.

TYPES OF SUCKTION UNIT

Select according to your suction unit

6.2.1 Keypad

E.g.: Version 1.0

Operating button:	ON / OFF
Confirmation button:	Enter
Turning speed button:	”+“ and “-“

6.2.2 Display

With the first operation the Setup assistant appears.

Key all information concerning the type of the connected machine(s) in.

This data may be changed later (see chapter Display 6.2.3).

With each further starting the starting announcement will appears first, than the standard announcement will be displayed.

6.2.3 Starting Announcement:

Announcement after starting in sequence:

A	t	m	o	s	C	o	m	p	a	c	t
S	P	e	e	d	y	1	0	0	V	A	
V	e	r	s	i	o	n	1	.	0		

Type aspirator (e.g. Atmos Compact)

Type of laser (e.g. Speedy 100), with/without Prefilter

No. of version

The announcement switches automatically into the standard announcement after 5 seconds:

6.2.4 Standard Announcement

V	o	l	u	m	e						%					
F	i	l	t	e	r						%					
A	c	t	i	v	a	t	e	d	C	a	r	b	o	n	%	
															O	K

- Volume (nominal value) in % from the voltage
Filter in % and the expired operating hours so far, from 0 h to 999999 h (The system counts operating hours as long as the turbine receives a control-system signal.).
- Activated carbon 0% to 100% (hours of activated carbon in percent).
- Operating hours so far, from 0 h to 999999 h (The system counts operating hours as long as the turbine receives a control-system signal.). Status "OK" or failure announcement.

6.2.5 Status Announcement

The announcement "OK" (=LED green: "RUN") is the operating announcement at the same time if an adjustable minimum pressure is achieved and no further failure announcement exist.

The "RUN" LED expires if a lower air volume e.g. 110m³/h is adjusted because the differential pressure is too low (standard setting of the differential pressure 200 Pa).

If there is a low air volume required the adjustment in the Setup menu for code 2 has to be changed. In this case the Trotec Produktions- u. Vertriebs GmbH is to be addressed.

Failure announcement "change filter" Atmos Compact without Prefilter:

V o l u m e	%
F i l t e r	%
A c t i v a t e d C a r b o n	%
C h a n g e F i l t e r	

- Acoustic announcement: buzzer
- LED error: red

The error announcement is displayed at 100%.

Failure announcement "change filter" Atmos Compact with Prefilter:

On reaching the maximum turning-speed and "Min Vol" (minimum volume) the announcement "MIN VOL CHECK PRE" and "CHANGE FILTER" are displayed by turns.

Clean and check respectively the Prefilter first. Does the announcement not disappear change the filter of the Atmos Compact.

Max Vol

The announcement "MAX VOL" is displayed if the nominal value is manipulated and the programmed maximum volume-flow rate is reached.

We recommend: Do not change this adjustment, the filter life is optimized with this setting.

It is possible to change the "Max Vol" setting in the set-up menu with code.

Max Speed

The announcement "MAX SPEED" is displayed if the maximum turning-speed of the turbine is reached.

Please, check the spare part filter at hand: This announcement might be a reference to a full filter in a little while.

Service interval activated carbon:

V o l u m e	%
F i l t e r	%
A c t i v a t e d C a r b o n	%
C h a n g e A c t i v C a r b o n	

- Acoustic announcement: buzzer
- LED error: red

This announcement will be restrained if the given hours are adjusted to 0.

After replacing the activated carbon the alarm must be cancelled by pushing "+" and "-" simultaneous for 3 seconds – to the adjustment 0. The announcement reads "activated carbon OK". With this action the signal will be reset to the fix pre-set data and the status announcement displays "OK".

6.3 Announcing and Adjusting the System Parameter

Access to the setup menu is gained direct after the first operation of the Atmos Compact or by pushing the key Enter.

"Language.....	< "
"Laser type.....	"
"Exhaust type.....	"
"Prefilter	"
"Reset coal	" only if "coal time" diverse 0
"Code	"
"Exit	"

The key "+"/"-" moves the cursor ("<") up and down, "Enter" selects the data.

- If there is a sub-menu (marked by) you get into the sub-menu.
- If the parameter is changeable, the cursor switches to "#". Afterwards the data may be modified by pressing "+"/"-". By pressing the key "Enter" the selection will be stored. The cursor switches to ("<").
- If there are only two data available (e. g. yes/no, on/off, selected/not selected) by pushing the key "Enter" the selection changes. A checkmark shows yes/on/selected.
- Within a submenu the selection is performed by pressing the key "Enter" (instead of the cursor) and returns into the previous menu

With more than four menu items the announcement scrolls.

6.3.1 Setup for Menu with code

(Quoted data are example data)

"Filter"	4000Pa	< "
"Coal time"	1000h	"
"Brush time"	0h	"
"Min Vol"	20%	"
"Max Vol"	100%	"
"Max RPM"	100%	"
"Orifice"	68mm	"
"Zeta"	2.00	"
"Delay time"	60s	"
"No of blowers"	1	"
"Exit"		"

6.3.2 Sub-menu for Language Selection

"Language: German"	< "
"Language: English"	"
"Language: French"	"

"+" / "-" Key move the cursor ("<"), "Enter" key accepts the selection. Than the setup menu will be displayed. With more than four languages the announcement scrolls.

6.3.3 Sub Menu for Laser Type Selection

"Speedy 100"	< "
"Speedy 300"	"
"Rayjet"	"
"Laserati"	"

"+" / "-," key move the cursor ("<"), with more than four types the announcement scrolls. "Enter" key accepts the selection. By pushing the exit key the standard menu will be displayed.

6.3.4 Parameter

“*Coal time*“ Is the durability of the activated carbon (0h deactivates the monitoring of the activated carbon).

“*Brush time*“ Is the durability of the brushes (0h deactivates the monitoring of the brushes).

“*Min vol*“ Is the minimal tolerable volume flow in m³/h.

“*Max vol*“ maximum volume-flow rate for the selected laser type.

“*Max rpm*“ Limit possibility of the revolutions.

“*Orifice*“ Diameter in the orifice in mm.

“*Zeta*“ Coefficient in the orifice.

“*Delay time*“ Release delay in seconds, if the on and off process will be performed via remote control.

“*No of turbines*“ Atmos Compact is with one turbine.

6.4 Diagnosis Display

After consulting a support-technician different data may be displayed on the diagnosis display.

Push the key “Enter“ for three seconds. Information of your Atmos Compact will be announced. Inform a technician if necessary.

With the key “+“ you reach the next announcement and with the key “-“ respectively the previous.

Push to quit the diagnosis display the key “Enter“ for three seconds or push the key “+“ twice.

6.5 Remote Control

Apart from the operation with the transparency keyboard there is still additionally the possibility to control the Atmos Compact over a lead to an external control console (e.g. at the machine which can be exhausted).

Depending upon execution of the remote control all or only one part of the functions described in the previous section can be implemented.

Attach the external control console with a shielded cable at the Sub-D9-plug at the turbine case of the Atmos Compact. Consider the references in the section 5.1.

	Reference!
---	-------------------

If you switch off the Atmos Compact externally via the remote control, the turbine runs the pre-set time and switches off only then.

This delay ensures that a majority of the gas/smoke are sucked off.

6.6 Test Operation




Reference!

Accomplish the test operation, if you have acquired the Atmos Compact and want to know/learn the functions.




Accomplish the test operation in addition, if you attached the Atmos Compact to a (new) remote control or disturbances at the Atmos Compact have been repaired before.

Accomplish the test of the Atmos Compact as follows:

- Examine first all connections at the Atmos Compact for correctness and a firm seat.
- Connect the Atmos Compact to the mains supply.
- Switch on the Atmos Compact at the transparency keyboard with the key  .

Important: when switching on at the keypad press ON-/OFF key for about. 0,5 sec.

Alternatively switch the machine on which will be exhausted. The Atmos Compact will be turned on automatically.

- Increase the number of revolutions of the turbine, by touching lightly the key  and keep pressed. You can notice the increase of the number of revolutions at the noise increase. In addition in the display increases the flow announcement (m³/h) on the display.
- Increase the number of revolutions of the turbine to 100 %. The flow (m³/h) announcement or the flow % must rise.
- Reduce afterwards the number of revolutions of the turbine, by touching the key  and keep the key pressed. You can notice the reduction of the number of revolutions at the noise acceptance. In addition the flow (m³/h) announcement or flow in % will be reduced.
- If you operate the Atmos Compact at a remote control, examine now also all existing functions. These can be:
 - direct OFF/and again switching ON of the Atmos Compact,
 - increasing the number of revolutions,
 - reducing the number of revolutions,
 - automatic switching OFF of the Atmos Compact, if the machine will be switched off,
 - automatic switching ON of the Atmos Compact, if the machine will be switched on.
- Afterwards switch the Atmos Compact off at the transparency keyboard with the key  .

Alternatively switch off the machine which will be exhausted. The Atmos Compact is switched off automatically after the adjusted time.

If the test operation ran off to your satisfaction and without malfunctions the Atmos Compact is now ready for operation.

7. Maintenance

7.1. In General

The chapter maintenance covers the ranges servicing, visual inspection (inspection) and maintenance by the operating personnel as well as those of the service of the Atmos Compact by particularly trained maintenance personnel. The arrangement of these ranges into different maintenance intervals is to facilitate the planning of each necessary maintenance for you.

The instructions described in this chapter are to be understood as minimum recommendations. Depending upon operating conditions expansions can become necessary, in order to remain the high quality of the Atmos Compact. The indicated time intervals refer to the operation hours of the Atmos Compact1000 indicated at the display.



Warning!

Endangerment of humans and real values possible!

By inappropriate inspection, maintenance or repair damages to property and person arising direct or in the future are possible.

All maintenance and repair at the Atmos Compact may be implemented only by qualified technical personnel (consider chapter 2, security).

References to repairs and orders of spare parts please take from the product description and spare parts list.



Information!

For the preservation of the warranty claim the regular work for the maintenance must be proven by maintenance and operating personnel by record.

Use only approved original spare parts!

With the use of unapproved spare or replacement parts and operational funds the Trotec Produktions- u. Vertriebs GmbH does not take over warranty!

Provide for careful and safe environmental disposal.



Reference!

To avoid damages at the Atmos Compact pay attention to a normal disassembly and assembly of construction units.

With all dismantle and disassembling applies therefore in principle:

- Mark parts.
- Note the installation position and place.
- Disassemble, clean and keep building groups separately.

After repairs applies in principle:

- Control all bolt connections for tightness.
- Control all hose and fittings as well as connections for tightness.

If the disassembly of protection device is necessary for maintenance, the reattachment and the examination of the protection device has to take place immediately after conclusion of the work.



Reference!

Consider also the safety references in section 2,7, safety references to the maintenance as well as the referring to special danger kinds in section 2.8.

7.2. Operating Conditions

Depending upon kind and range of the maintenance the Atmos Compact must be stopped and/or switched completely dead.

For execution of cleaning and repair the Atmos Compact is to be separated in principle from mains supply.



Warning!

High voltage! Causes death or lethal injuries.

With cleaning and maintenance work disconnect the Atmos Compact from the power supply.

7.3. Care and Visual Inspections

Task of the operating personnel is it to check the accessible ranges of the Atmos Compact daily for contamination and damages. Contamination should, so far accessible, be removed and damages announced to the responsible maintenance personnel.



Reference!

By unavoidable dirt deposits the inscription of control elements or warning references can become illegible. Thus it can come to faulty operations, which can cause damages.

- Always control the Atmos Compact at the beginning of work.
- Remove dust and other impurity from all control elements, announcements and warning sticker once a week by wiping off with a damp cloth.

With the selection of the cleaning agent it is to be made certain that no surfaces, keyboards, plastics or seals are attacked.

All aqueous industrial cleaner are usable without restriction.

7.4. Visual Inspection

Kind of Control		√
Control of the operation behaviour	Observe the Atmos Compact on normal operational behaviour: - Operation noise, - Heating up, - Smell development. Stop immediately with irregular operational behaviour if necessary and inform maintenance personnel.	
Control for residue	Check the Atmos Compact and surrounding for residues of material and fuels and if necessary remove it.	
Remove contamination	- Corridor, work surfaces, descriptions	
Wear control	- Mobile supplying and extraction pipes, - Outward recognisable sealing etc. Renew construction units if necessary.	
Control for damage	Outwardly recognisable damages on all construction units.	
Examine for leakage	- Hoses for supplying and extraction of the Atmos Compact.	

8. Service

8.1. In General

All service work must be accomplished in the indicated period and with the appropriate care.

The life span and good quality of the Atmos Compact can be preserved by the maintenance of the components.

Apart from the regular cleaning the precautionary exchange of wearing parts is recommended urgently.

In special cases the Trotec Produktions- u. Vertriebs GmbH designates you then a service bureau in your proximity, which accomplishes the repairs.

8.2. Filter Pollution

8.2.1 Exchange of the Pocket Filter

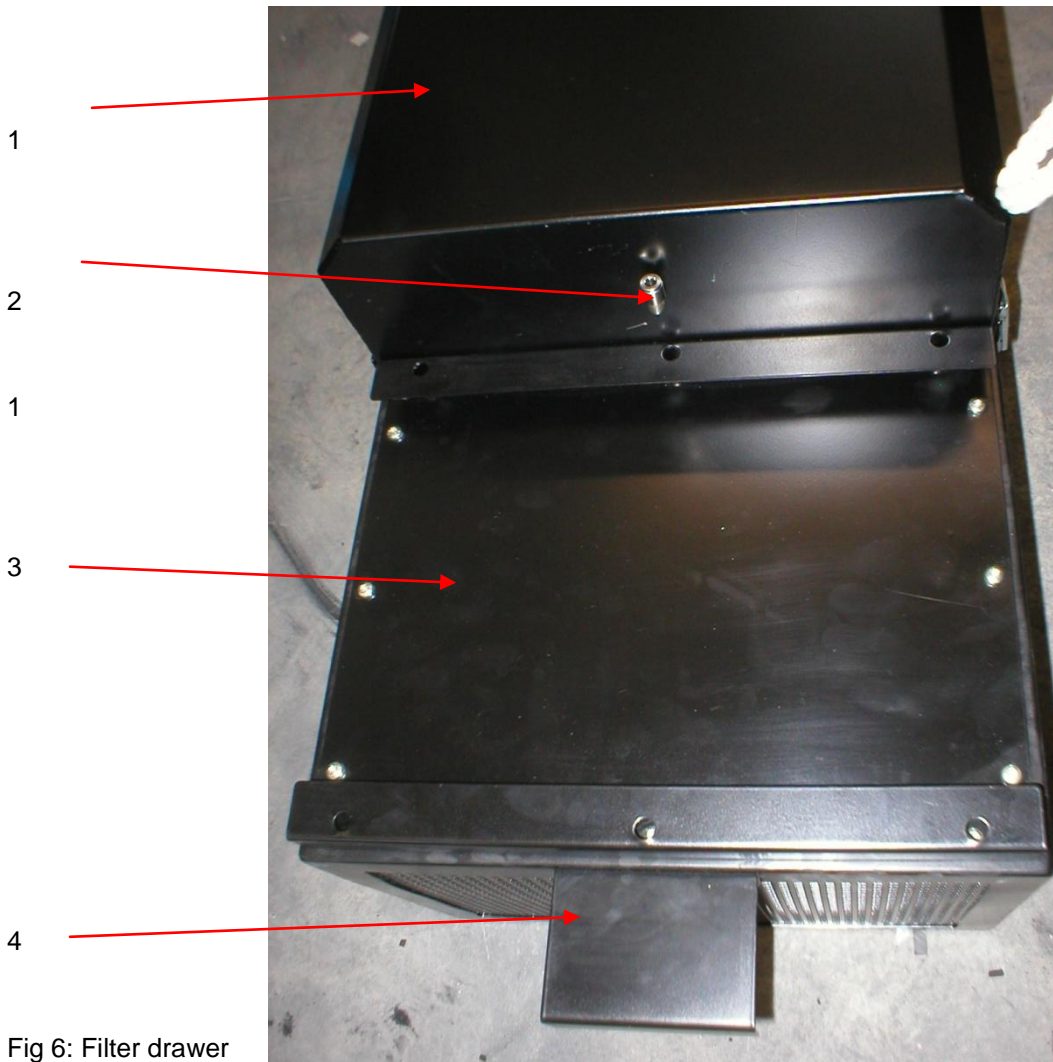


Fig 6: Filter drawer

Pos. 1	Cover pocket filter	Pos. 3	Cover activated carbon
Pos. 2	Measuring nipple	Pos. 4	Handle

During the operation of the Atmos Compact you have to observe the status announcement constantly and with the announcement CHANGE FILTER you must replace the pocket filter. An acoustic buzzer (acoustic alarm) indicates the change of filter.

	Warning!
---	-----------------

Destruction of the pocket filter! Poisonous types of dust!

Destruction of the turbine! If the turbine is dirty no warranty claim is given!

Possibility of direct skin contact or the inhalation of the dust!

If the filter alarm is not noted, it can come to tearing of the pocket filter in the housing of the filter-unit.

Exchange the pocket filter at once!



Attention!

Poisonous types of dust!

When working with/on the filter-unit exists the danger of inhaling or coming into contact with whirling up types of dust.

- Put on therefore before beginning the work a purifying dust respirator of the protection stage 3 and one-way gloves from polyethylene (long execution).

If the announcement "change filter" appears, even though the pocket filter and the activated carbon are new, the measuring hose must be controlled if chinked or blocked!

Proceed with the filter exchange as follows:

Switch off the Atmos Compact

- Turn off the Atmos Compact on the transparency keyboard with the  key

Alternatively switch off the machine which will be exhausted. After the adjusted time the Atmos Compact is switched off automatically.

- Secure the Atmos Compact against unexpected restarting by:
disconnect the mains cable from the power supply main.
- Open the filter door.



- Disconnect the measuring hose.

Fig. 7

- Pull out the filter drawer from the housing (Fig. 7).



Fig. 8 open tension device by

press lock downwards

Fig. 8

- Unlock and open the tension device (see Fig. 8)
- Remove the cover of the pocket filter part.
- Lift out the pocket filter from the filter unit.

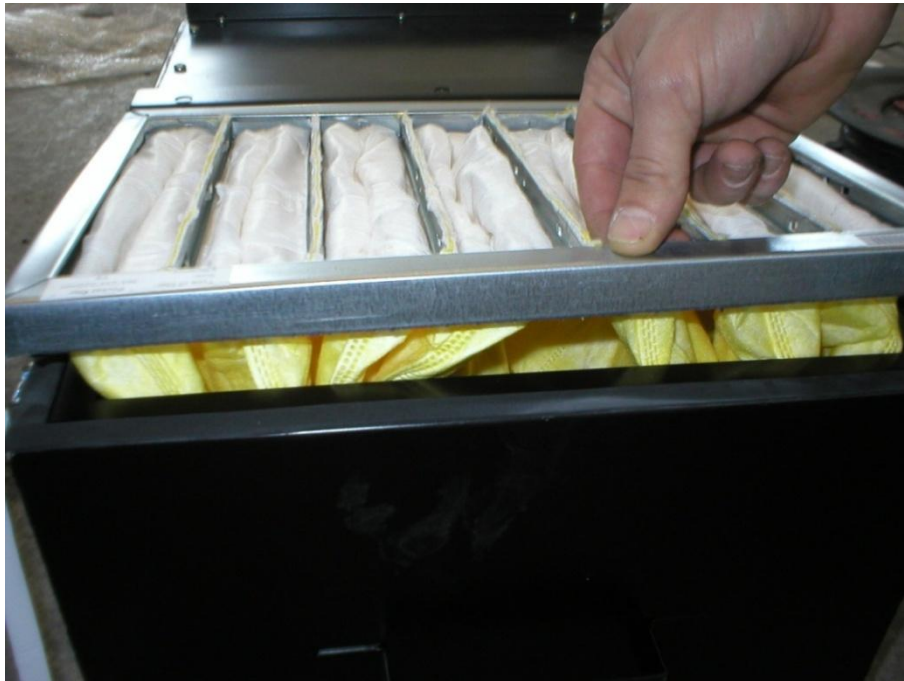


Fig. 9

- Push the pocket filter completely into a closing plastic bag and lock it.
- Supply the pocket filter immediately to the disposal.

Put in a new pocket filter

- Unpack the new pocket filter, remove the fixing string and put the filter into the filter drawer, the scripture on the filter frame has to be on the handle-sided, the frame must lie flat on the filter drawer and the pocket must show upwards.



Fig. 10

- Straighten the filter bags.
- Connect the cover to the filter drawer.
- Close tension device (if they do not shut, bend press lock with your finger upwards and try to shut again)

- Push the filter drawer into the Atmos Compact.



Fig. 11

- Connect the measuring hose.
- Push the filter drawer completely to the back. The rubber inset must lie airtight to the housing.
- Examine rubber gasket plate for cracks before inserting the suction hose.



Fig. 12

- Shut the filter door.

8.2.2 Exchange of the Activated Carbon

Replace the activated carbon if the status announcement displays CHANGE ACTIV CARBON. The announcement shows 100% and the LED-Error (red) shines.

An acoustic buzzer indicates the failure.

	Reference!
---	-------------------

The acoustic signal can be switched off by the operation of the keys +, – or ENTER at the transparency keyboard.

	Warning
---	----------------


Poisonous types of dust!

When working with/on the filter-unit the danger of inhaling or coming into contact with whirling up types of dust exists.

- Put on therefore before beginning the work a purifying dust respirator of the protection stage 3 and one-way gloves from polyethylene (long execution).

Proceed with the activated carbon exchange as follows:

Turn off the Atmos Compact

- Turn off the Atmos Compact on the transparency keyboard with the key  .

Alternatively switch off the machine which will be exhausted. The Atmos Compact is switched off automatically after the adjusted time.

- Secure the Atmos Compact against unexpected restarting by: disconnecting the mains cable from the power supply main.
- Open the filter door.
- Disconnect the measuring hose.
- Pull out the filter drawer (Fig. 7) from the housing (Fig. 3).
- Unlock and open the tension device (see Fig. 8).
- Remove the cover of the pocket filter part.
- Lift out the pocket filter from the filter unit.
- Push the pocket filter completely into a closing plastic bag and lock it.
- Open the activated carbon part of the filter drawer (use a long version screwdriver bit).
- Pour the activated carbon completely into a closing plastic bag and lock it.
- Supply the pocket filter and the activated carbon immediately to the disposal.

Fill in the new activated carbon

- Unpack the new activated carbon and the filter mats.

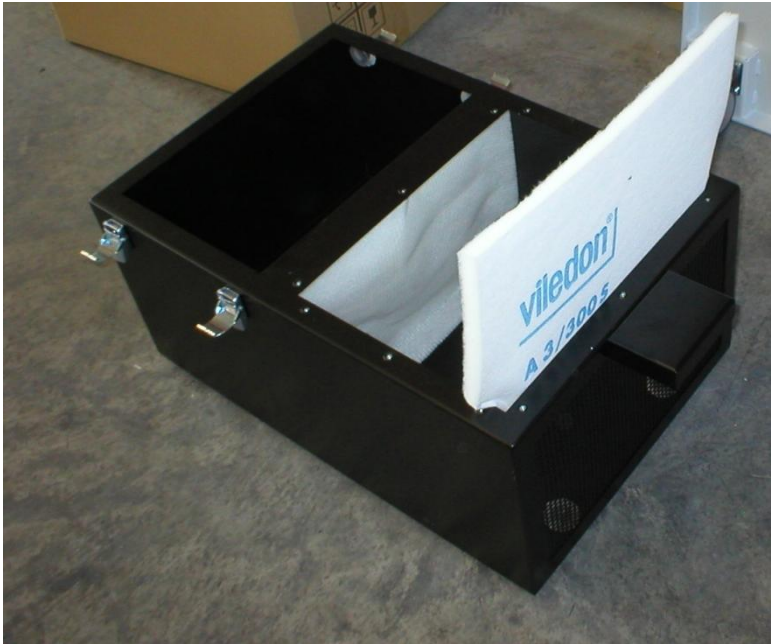


Fig. 13 Filter mat clean gas side (consider the grid side of the mat has to direct toward the handle)
Filter mat rude gas side (blue imprint has to direct toward the handle).

- Position the filter mats in the filter drawer in front and on the back of the filter drawer (consider the clean gas side directions).
- Pour in some of the carbon, than check if the mats are in the right position.
- Now pour in the activated carbon from the supply bag into the activated carbon housing.
Attention: the rest of the carbon may not be poured into the carbon casing!

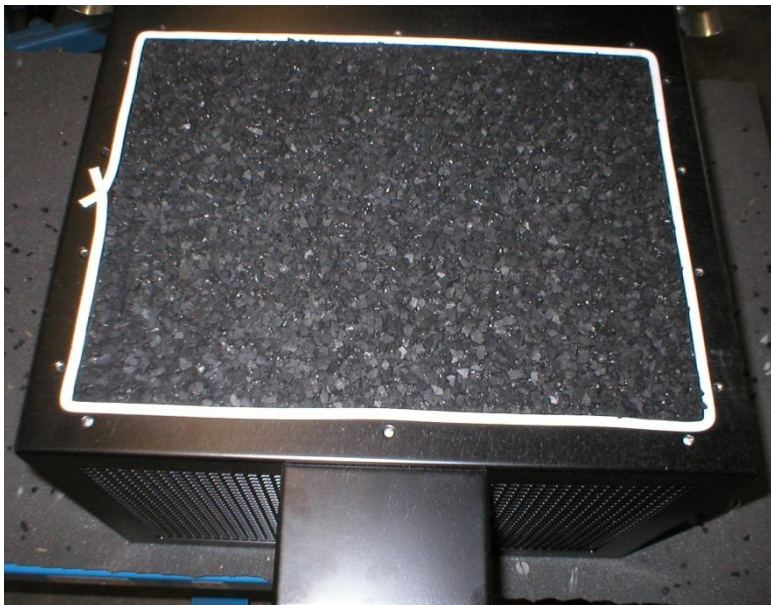


Fig. 14

- Shut the activated carbon housing.

Proceed like in chapter 8.2.1 described.

- Unpack the new pocket filter, remove the fixing string and put the filter into the filter drawer, the scripture on the filter frame has to be on the handle-sided, the frame must lie flat on the filter drawer and the pocket must show upwards.
- Straighten the filter bags.
- Connect the cover to the filter drawer.
- Push the filter drawer into the Atmos Compact.
- Connect the measuring hose.
- Push the filter drawer completely to the back. The rubber inset must lie airtight to the housing.
- Shut the filter door.

Reset the failure announcement:

After replacing the activated carbon the alarm must be cancelled by pushing "+" and "-" simultaneous for 3 seconds – to the adjustment 0. The announcement reads "activated carbon OK". With this action the signal will be reset to the fix pre-set data and the status announcement displays "OK".

9. Error Tracing and Brake down search

Error	Cause	Elimination
No suction power (Smoke/gas are not sucked off).	Suction hose not attached at the Atmos Compact.	Attach the suction hose at the Atmos Compact.
	Suction hose not attached at the machine.	Attach the suction hose at the industrial laser.
	Damage of the suction hose.	Exchange the suction hose.
No suction power and/or error announcement "change filter" also with a new filter inserted.	Inlet clogs.	Examine inlet. If necessary repair disturbance.
	Clean gas way clogs.	Examine clean gas way. If necessary repair disturbance.
	Suction air way too long.	Test the Atmos Compact with a short length of hose. If necessary, use only a hose no longer than 2,5 m.
Suction power too small (Smoke/gases are hardly sucked off).	Pocket filter is full.	Exchange pocket filter, deposit old filter-unit duly!
	Damage of the suction hose.	Exchange the suction hose.
	The suction hose is not attached correctly at the machine.	Examine the fitting of the suction hose on the machine; if necessary attach the suction hose again.
	The suction hose is not attached correctly at the Atmos Compact.	Examine the fitting of the suction hose on the Atmos Compact; if necessary attach the suction hose again.
	Clean gas way narrows.	Examine clean gas way, if necessary repair disturbance.
	Inlet narrows.	Examine inlet, if necessary repair disturbance.

Error	Cause	Elimination
Suction power too small (Smoke/gases are hardly sucked off) the turbine does not reach the necessary speed.	Overheating through huge filter pollution.	Turn off the Atmos Compact, exchange the pocket filter. Switch on the Atmos Compact only after the turbine has cooled itself.
	Failure on the Atmos Compact.	Contact the Trotec Produktions- u. Vertriebs GmbH. If necessary send the Atmos Compact to Trotec.
The Atmos Compact does not start.	Plug connection of the current supply is not or wrongly put in.	Examine the connection of the current supply, if necessary connect correctly.
	No current on plug socket.	Examine current mains, if necessary repair disturbance.
	Connecting cable for external control not or wrongly plugged in.	Examine the connecting cable for the external control, if necessary plug in correctly.
	No control signal for remote control of the machine.	According to the manual eliminate disturbance.
	Failure on the Atmos Compact.	Contact the Trotec Produktions- u. Vertriebs GmbH. If necessary send the Atmos Compact to Trotec.
Motor stops within operation.	Overheating through huge filter pollution. The thermal protection of the turbine is released.	Turn off the Atmos Compact, exchange the pocket filter. Switch on the Atmos Compact only after the turbine has cooled itself.
	The turbine is stalled through tearing of the pocket filter!	No warranty claim is given! The exchange of the turbine is necessary. The pocket filter and the activated carbon must be exchanged also. It is absolutely necessary that all parts of the Atmos Compact have to be cleaned, in particular the housing inside.
Atmos Compact Unit has developed smell although the motor runs and smoke/gases are sucked off.	Rubber gasket plate is damaged (has formed cracks).	Examine rubber gasket plate (see Fig. 12) for cracks.

10. Disposal

By the operation of the Atmos Compact waste material and replacement parts result, which have to be deposited according to the laws and environmental protection.

10.1. Environmental Protection



With all work on and with the Atmos Compact the legal obligations for waste avoidance and duly utilisation/removal are to be kept in particular with repair and maintenance work.

In particular with repair and maintenance work water-endangering materials like:

- lubricating oils and –fats as well as
- solvent containing cleaning agents

may not load the soil or arrive into the drains!

These material must caught, kept and transported in suitable containers and be deposited!

10.2. Filter and Types of Filter Dust



Poisonous dust!

While handling toxic types of dust special caution is required. When working with/on the filter exists the danger that you inhale or come into contact with whirling up types of dust.

- Put on therefore before beginning of the work a purifying dust respirator of the protection stage 3 and one-way gloves from polyethylene (long execution).

Depending upon pollution impact particle and gas filters are subjects to the special refuse regulation and are accordingly to dispose.

10.3. Final Putting Out of Operation

For the Atmos Compact finally is set out of operation, the disposal of the construction unit and filter have to be kept according to the, at this time valid, laws and regulations for disposal.

11. Appendix

11.1. Spare and Wearing Parts

Description	Art.-No
Pocket Filter à 5 pieces	37048
Activated carbon about 16 kg for Atmos Compact	37242
Filter mat for activated carbon part (5 pieces clean gas side, 5 pieces rude gas side)	37243
Turbine (M) 1,2 kW, DC, 230V (Atmos Compact 230 V)	37264
Turbine (M) 0,8 kW, DC, 115 V (Atmos Compact 115 V)	37265
Electronic Board with FlowControl	37267
Display	37268
Transparency keyboard	37269
Transparency keyboard with display	37270
Net filter (Mains Filter 1 and 2) 8-16A	37272
Buzzer	37271
Fuse-Push Button for 230V	37273
Fuse-Push Button for 115V	3727400325
Mains cable 230V	37337
Mains cable 115V	88264
Roller with brake NW 70	37275
Roller NW 70	37276
Roller for filter drawer	37277
Hinge black	37278
Tension device	37279
Esapnolette lock	37280
Rubber gasket plate	55926