

# NAVODILA ZA UPORABO IN VZDRŽEVANJE

## Paket LIFA Duct Control Mini / Manual s kamero z vzratnim pogledom (back cam)

Paket Duct Control Manual je enak kot Duct Control Mini, a brez robotske kamere za kanalske vode Duct Truck

Prenosni video nadzorni sistem za zračne vode in suhe luknje / prostore



Ta navodila morajo biti vedno dostopna upravljavskemu osebju stroja. Pred uporabo stroja pazljivo preberite ta navodila. Dosledno upoštevanje teh navodil zagotavlja mnoga leta nemotene uporabe.

**POMEMBNO!**  
**Pazljivo preberite ta navodila pred uporabo stroja!**

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## SPLOŠNE SMERNICE

Naprava, za katero veljajo ta navodila, je bila izdelana v skladu s trenutno veljavnimi zakoni, statuti in uredbami Evropske unije. Stališča in predpisi o varni uporabi strojev se sčasoma spreminjajo. Če uporabnik Lifa naprave opazi dejavnike ali možnosti za izboljšanje varnosti pri delu, bo Lifa Air Ltd. zelo hvaležna za te informacije.

1. Lifa Duct Control Mini / Manual, inšpekcijska kamera z baterijo je bila izdelana za pregledovanje različnih vodov, tako okroglih kot pravokotnih, cevi in različnih manjših prostorov v suhih razmerah.  
Naprava NI vodoodporna in se ne sme uporabljati v mokrih razmerah, na primer v kanalizacijskih ceveh!  
Napravo je prepovedano uporabljati v nepredvidene namene brez dovoljenja proizvajalca. Če se naprava uporablja v nepredvidene namene, proizvajalec ni odgovoren za morebitne posledice.
2. Napravo lahko uporabljajo le usposobljene osebe, ki so prebrale proizvajalčeva navodila za uporabo itd.
3. Upravljalci naprave se morajo seznaniti z njeno zgradbo, funkcijami in varno uporabo.
4. Med delovanjem stroja je prepovedano odstraniti ali onesposobiti varnostne naprave.
5. Če je potrebno stroj namestiti tako, da zaustavi ali ovira delovanje izvirnih varnostnih naprav, je o tem takoj potrenbo obvestiti nadzorno osebje.
6. Raven hrupa naprave je zelo nizka (< 70 dB)
7. Zaradi narave čiščenja prezračevalnih vodov (izvaja se v intervalih, menjava položajev), je izpostavljenost vibracijam (zgolj roke) precej nižja od dovoljene.



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## **TECHNICAL INFORMATION**

The following information refers to the basic model of Lifa Duct Control Mini / Manual. There are some alternative parts, such as the control box with either one or two joysticks, which this instruction manual takes into consideration.

Some parts may come from alternative suppliers, such as TFT monitor, Battery Charger, Field Box. The manufacturer`s instructions for that equipment are attached to this instruction.



- Field Box, black plastic case
- Connection Central Box
- Main fuse
- Power on-off switch
- Input for video/steering cable
- Input for Joystick cable
- Output for TFT Monitor
- Output (RCA) for recording device, or picture card for PC or other recording device
- Sealed valve regulated lead-acid battery 12 V, 5 Ah inside the Box
- TFT-LCD 175 mm (7 inch) color monitor, 1140 x 234 pixels (see separate instruction manual)
- Plastic cable shield/reel
- Video/steering cable 25 m with connection plugs
- Lifa Duct Truck Mini Tractor, length 180 mm, width 140 mm, height 80 mm, 2 pcs 12 V DC gear motors, chain drive
- 2 built-in color video cameras (front and back) with integrated LED lamps, front camera has Ø 2,5 mm lens, resolution 700 TV-lines, viewing angle 150 degrees.
- Input voltage for battery charger 120-240 V AC

## **DC Mini OPERATION TIME WITH BATTERY**

Duct Control Mini operates 3 to 5 hours with fully charged (fresh) battery.

**Please notice to charge the battery every time after use.**

Never store Duct Control Mini / Manual with empty battery, the battery must always be fully charged.

## **CONTROLS**

- 1) Duct Truck and Drop camera LED light brightness adjusting knob is beside the Joystick. On/off with the manual drop camera is done by plugging in/out the cable of joystick control unit.
- 2) Manual pushing accessory for the drop camera of Duct Control Manual, glass fiber rod on reel with 25 meters of length



Joystick steering control and LED lamp brightness adjusting knob.



25-meter-long glass fiber rod the Drop Camera of the Duct Control Manual (accessory)

## **INSTALLATION**

### **1. Transport**

Before installation and use, check all the parts. Insure that none of them have been damaged during transport. Lifa Duct Control Mini / Manual must be protected from moisture and must not be stored unprotected outside. Please, take care when packing/unpacking the equipment.

### **2. Operating position**

Place Lifa Duct Control Field Box on a stable surface.

Protect the equipment from vibration and other agitation.

The permitted operating temperature is ranging from  $-10\text{ }^{\circ}\text{C}$  to  $+43\text{ }^{\circ}\text{C}$ .

### **3. Electrical connection**

The Lifa Duct Control Mini / Manual has a charger (12 V) for the built-in battery.

The CE- marked charger is suitable to a single-phase current 230 V 50 Hz.

The export models to USA and the other countries using 120V / 60 Hz are equipped with a charger labelled 120V/60 Hz. Please check that the charger is the right one for the local power supply! Do not use other types of chargers!

### **4. Charge the battery.**

Charging time is 5-6 hrs; if the battery has been empty for several days, charging time of 24 hours is recommended. The green and red light are on when the charging is OK.

**Always re-charge as soon as possible and never store with empty the battery.** The charger is automatic and changes to trickle charge mode when the battery is full. Refer to separate instruction if needed.

After completing the charging, disconnect the charger.

To secure the long lifetime for the battery, run the Duct Control Mini / Manual mainly with the charger unplugged. When using a long period the charger can be connected. (The charger may give some disturbance for the picture; also, when the battery is running empty, disturbance of the picture is first sign of this).

### **5. Fastening the cables**

After opening the DC Mini/Manual case, loosen the 25 m cable with the plastic reel by unscrewing the fixation screw in the center of the case lid. Connect one end of the 25 m cable to the Duct Truck or Drop camera and the other end to the Central Box.

Connect the joystick cable and the video/steering cable to the Central Box.

Connect the TFT monitor cable to the Central Box.

Check that all plugs are fastened properly, but do not over tighten the collet nut because of risk of damage to connector/connections. Do not use pliers in tightening!

### **6. Switch the power on**

ON/OFF Switch shown at photo. Red LED indicates power-on position.

### **7. Switch on the LED lamps**

Driving light's goes on by turning the light control knob on the joystick box.

### **8. Switch on the TFT Monitor**

Monitor goes on by pressing the on/off –button at the monitor display.

For other details, look at the User`s Manual of the Monitor.



### 9. Recording the video picture on to lap top / or directly to SD-card device

Plug into the RCA output either the SD-card recording device or the video grabber. If using video grabber, connect it to the USB 2.0 port of the lap top. Follow the video grabbers operation and maintenance manual in detail to get the picture onto the screen. **Please notice that when using the video grabber for lap top, you need to connect your lap top into internet and make sure all software + drivers are compatible to each other!**

### 10. Use of back (rear view) camera

When reversing, or if needed to see what was behind, there is also camera in the behind of the Duct Truck camera robot. With switch 10 you can choose view from front or rear camera.

**11. Fuse.** Notice, when using duct control for operating Duct Control Cleaning robot the fuse must be changed to 5 A fuse.

### 12. Charger input



## **MAINTENANCE**

**The equipment must be unplugged from the mains before carrying out any service or repair!**

- **Always re-charge the battery as soon as possible and never keep the battery empty for a long period**
- When winding the cable back to the reel after use always try to get all the twist out of the cable; this is best done by hanging the whole cable in the air or lying on the ground in full length before winding back
- When winding the cable after use, wipe it clean with a soft cloth (microfiber, cotton, tissue or similar) moistened with a mild detergent.
- Wipe the Drop Camera (or Duct Truck), joystick box and the other parts with a soft cloth, too
- Carefully wipe clean the lens and the LED lights of the Drop Camera (or Duct Truck).
- Check all the connection plugs, cables for any loosened screws or possible damages.

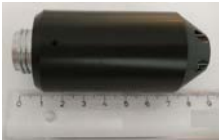






## **SPARE PARTS**

When ordering spare parts, always specify the model, serial number and year of manufacture, size and type of the equipment.

### **NOTE!**

Any repair needed must be carried out by the manufacturer or by a representative of the manufacturer. We are not responsible for any service or repair carried out by a third party.

## ACCESSORIES

Item no	product	photo
6420281024245	<p><b>Drop Camera</b> (manually pushed, for small ducts) for Duct Control Manual inspection camera set.            Lens Ø 2,5 mm, angle of view 150°, resolution 700 TV-lines, six integrated led lights with adjustable brightness.            Drop Camera is not water tight.</p>	
PV-500	<p>Video capturing device, transforms analogue signal into digital and records it into SD-card (within the small screen with record and stop button also)</p>	
7720281060151	<p>Duct Truck (minitractor)</p>	
6420281012365	<p>Glass fiber rod pair (start and end), 2 pcs; 1.75 m each (extendable with more pairs) for Drop Cam (diam. 6 mm, M 8 connection)</p>	
6420281024504	<p>Glass fiber rod extension pair 2 pcs; 1,75 m each (diam. 6 mm, M 8 connection)</p>	
6420281024870	<p>Glass fiber rod (diam. 6 mm)            25m long with reel for Drop Cam</p>	
6420281020810	<p>Duct control cleaning robot            Brush rotation by compressed air (separate compressor needed), driving and camera operated with same control box as in Duct Control Mini camera robot.            Price includes 2 nozzles (air and liquid), drop camera.</p>	

## **GARANCIJA**

Garancijska doba traja eno (1) leto od datuma nakupa in velja v skladu s splošnimi pogoji dostave, v primeru doslednega upoštevanja teh navodil za uporabo in vzdrževanje. Ob uporabi neizvirnih nadomestnih delov in opreme (krtač, filtrov itd.) bo garancija razveljavljena.

Popravila so v garancijskem obdobju brezplačna (potrebno je predložiti dokazilo o nakupu / račun) pod naslednjimi pogoji:

- Okvara je posledica pomanjkljivosti v materialu ali defektnih komponent.
- Okvare zaradi običajne obrabe, napačne uporabe ali nezadostnega vzdrževanja garancija NE krije.
- Naprava je bila dostavljena za prvo obvezno vzdrževanje v 6 mesecih in/ali po 100 obratovalnih urah.
- Vzdrževalna dela in popravila mora izvesti proizvajalec ali pooblaščen zastopnik proizvajalca. Proizvajalec ne prevzame odgovornosti za vzdrževalna dela, ki jih je izvedla tretja stran.
- Izpolniti je potrebno reklamacijski obrazec in ga poslati proizvajalcu skupaj z opisnimi fotografijami.

Napravo je potrebno dostaviti pooblaščenemu zastopniku Lifa Air, od katerega jo je kupec kupil ALI ob predhodnem pisnem soglasju s plačano poštnino podjetju:

**Oy Lifa Air Ltd**

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**Tel. +358 9 3948 58**

**[www.lifa.net](http://www.lifa.net)**

**Lifa Air Oy Ltd si pridržuje pravico do uvedbe sprememb brez predhodnega obvestila.**

## **REKILIRANJE**

Napravo se lahko vrne pooblaščenemu zastopniku LIFA Air, od katere jo je kupec kupil, ali na zgornji naslov s plačano poštnino, če na območju prebivanja lastnika ni obrata za recikliranje.

Kovinski deli (ogrodje, kolut, motor) se lahko reciklirajo kot kovinski odpadki.

Električne dele (pretvornik frekvence, glavno stikalo) je potrebno vrniti pooblaščenemu obratu za recikliranje.

Druge dele se lahko reciklira kot mešane običajne odpadke.

**IZJAVA O SKLADNOSTI**

**Naziv proizvajalca:** Oy Lifa Air Ltd  
**Naslov proizvajalca:** Vellamonkatu 30b, FI-00550 Helsinki, Finska  
**Faks proizvajalca:** +358 9 3948 58  
+358 9 8764 366

**Model:** **LIFA Duct Control Mini / Manual**

**Oy Lifa Air Ltd izjavlja, na svojo izključno odgovornost, da so modeli naprav, ki jih pokriva ta izjava, skladni z zahtevami naslednjih direktiv in standardov ES:**

**Zgornja naprava je skladna z naslednjimi direktivami:**

Direktiva EU o nizki napetosti LVD 2014/35/ES

Direktiva EU o elektromagnetni skladnosti EMC 2014/30/ES

Direktiva EU o omejitvi uporabe določenih nevarnih snovi v električni in elektronski opremi RoHS 2011/65/ES

**Dodatne informacije:**

Naprava izpolnjuje zahteve za oznako CE.

**Oy Lifa Air Ltd** Helsinki, 2018-26-01

Johan Brandt, Generalni direktor