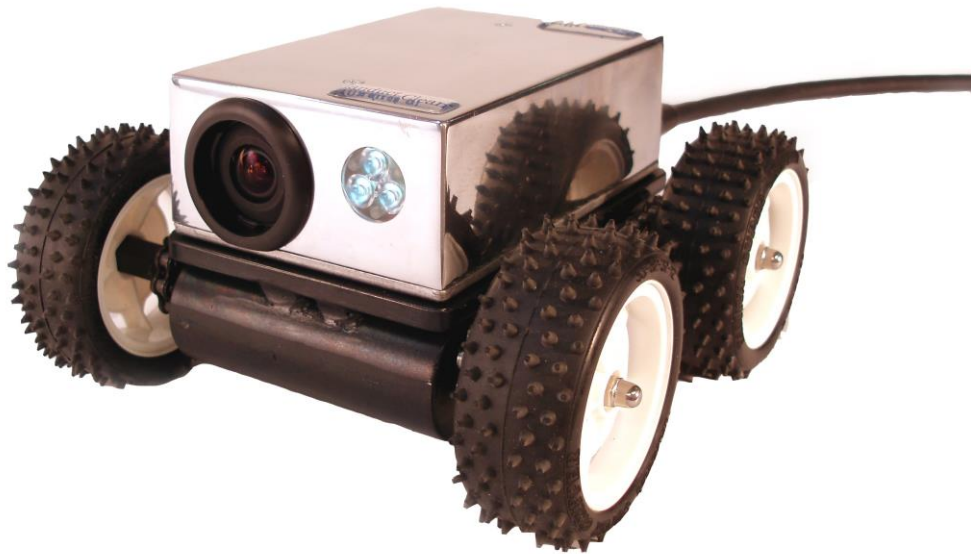


Owners Manual for Danduct Clean[®] inspection equipment



Danduct Clean[®]

Teglvaenget 63
7400 Herning
Denmark

Phone: +45 97 12 30 30
Fax.: +45 97 22 54 44
Email: danduct@danduct.com

- 1.1 Introduction**
- 1.2 Guarantee**
- 2.1 Assembly of the equipment for operation**
- 2.2 The equipment is connected in the following way.**
- 2.3 Changing fuse**
- 3.0 Operating the equipment.**
- 4.0 Operating environments.**
- 5.0 Maintenance**
- 5.1 Cleaning the equipment**
- 5.2 Tightening of the wheels**
- 5.3 Storage**
- 6 Test of the cable for the inspection equipment.**
- 7.0 Technical data**
- 8.0 EU Agreement statement**
- 9.0 Sparepartlist for inspection Robot (IN)**
- 10.0 Delivery report**

1.1 Introduction.

We are pleased that you have chosen the danduct Clean[®] inspection equipment for your company.

We are sure that you will be satisfied with the equipment, but would however urge you to read this manual for obtaining a good and trouble free operation of the inspection equipment.

1.2 Guarantee.

The equipment is covered by a 12 months guarantee from the date of delivery to the customer. *The guarantee period comes into force after danduct Clean[®] having received the signed delivery report.*

The guarantee covers parts and replacement in our factory, or by our distributor. It is however a condition of the guarantee, that the instruction in this Owners manual has been followed, and that the equipment has been proper maintained.

Our guaranty however is depending on the filled out return of delivery report to our dealer, and the observance of this Owners manual.

Equipment which has been repaired locally without our written consent is not covered by this guarantee.

Claims to the guarantee from third party is not covered by this guarantee.



2.1 Assembly of the equipment for operation.

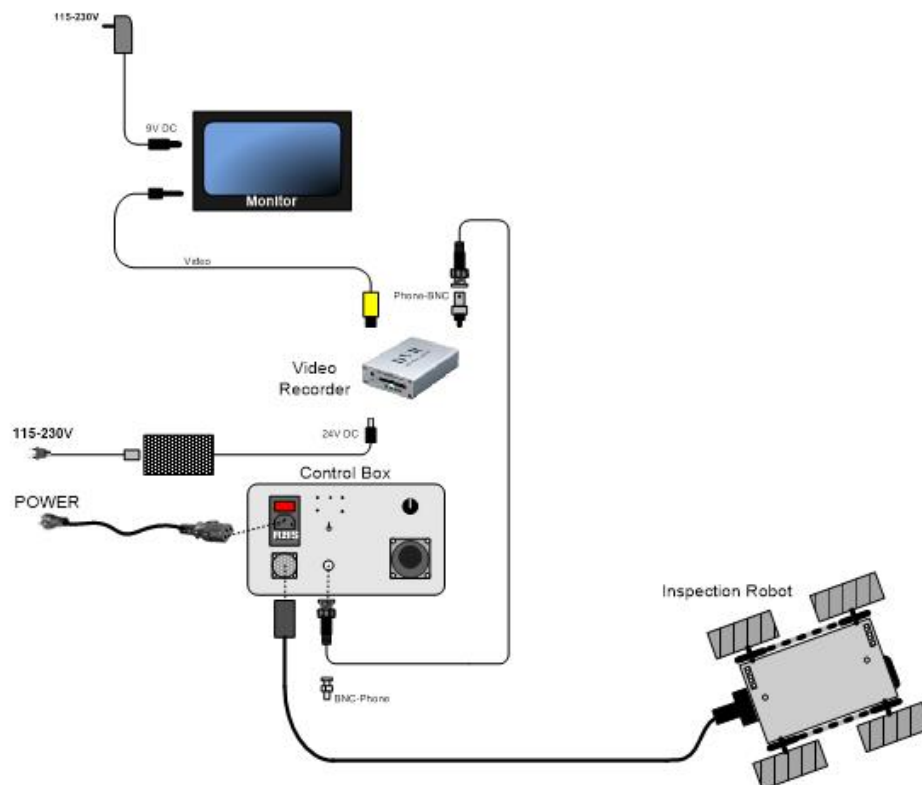
The inspection equipment consists of the following items:



- 7" Color Monitor
- Video SD Card Rec.
- Inspection vehicle with dual camera
- 30 meter cable.
- Control box

2.2 The equipment is connected in the following way.

Userguide Cable connection for IN Robot



2.3 Changing fuses.

The main fuse is placed beneath the power supply on the top of the control box. For the 230V version it is a 3,15A fuse, for 110V version it is a 6,3 A.

3.0 Operating the equipment.

The vehicle is inserted into the duct and controlled from the monitor.

The intensity of the light can be controlled by means of the potentiometer on the control box.

The vehicle is manoeuvred by means of the joystick on the control box. The vehicle is able to pull 60 meters of cable, but comes standard with 30 meter.

It is however recommended to feed the cable into the duct. Pulling the cable from the ground up to the duct, might make the operation difficult. Also be careful for sharp edge on the duct.

4.0 Operating environments.

The inspection equipment is designed to be used in dry ventilation ducts. The inspection equipment is classified as IP 54 (dust –proof).

The inspection equipment is not designed to be waterproof. The use of the equipment in wet, greasy, explosive, or any other environment which is not dry may cause damage to the equipment.

The equipment should not be used in temperatures under +0° C and above +60° C. Humidity max. 80 %.

5.0 Maintenance.

The equipment requires a minimum of maintenance. The following should however be carried out in order to let your equipment work for a long and trouble free period.

5.1 Cleaning the equipment.

Having operated the equipment for one day, it might have become very dirty. A daily cleaning with compressed air is recommended. If the equipment has become greasy, the grease should be removed by means of a piece of clothes moistened with a clang material (degreaser). Do not use any solvent.

5.2 Tightening of the wheels

After 40-50 inspections the wheels should be checked for tightness to the drive shafts.



First remove the centre nut, and remove the wheel.



Use an alum wrench to tighten the chain wheel hub.

As the vehicle is driven by only two engines, the front left and the right rear wheel are likely to seem loose. This is not the fact, it is because these wheels are connected to the engine through chains.

5.3 Storage.

The equipment can be stored in temperatures of -5 to 40° C. Please note, that temperature changes over night of 20° C might cause dew inside the electronics which can cause damage to the equipment.

6 Test of the cable for the inspection equipment.

If troubleshooting indicates that there may be a defect in the cable, it is possible to test the cable with an instrument that can measure ohm.

Simply measure between the two connector. The cable is “straight through”, that means pin 1 connects to pin 1, pin 2 connects to pin 2 and so on.

Be aware that pins 13, 14, 15, and 16 are not in use.

7.0 Technical data

Voltage:	230 V AC	115 V
Frequency:	50 Hz / 60 Hz	50 Hz / 60 Hz
Current:	0,7 amp	1,4 amp
Power:	130 W	130 W
Weight inspection equipment, complete	20,0 kg	
Weight of vehicle	3 kg	
Weight 30 meter cable	5 kg	
Weight of aluminum case	5 kg	
Weight of control box	4,0 kg	
Height	26,0 cm	10,5 “
Depth	47 cm	19”
Width	52 cm	20,5”

Colour inspection equipment:

The package for the colour inspection equipment consists of a truck, dual camera, 30 m cable, controlbox and a colour TV-monitor and DVD recorder. The equipment is delivered in an transport case.

8.0 EU Agreement statement

Supplier:

Company Name: **Danduct Clean**[®] Danmark
Address: Teglvaenget 63
7400 Herning
Denmark
Phone: +45 97 12 30 30 Fax: +45 97 22 54 44

hereby declare that

Machine: Name: Inspection vehicle
Type: CEM
Serial no.:
Year:

is in conformity with:

the COUNCIL DIRECTIVE of 14 June 1989 on mutual approximation of the laws of the Member States on the safety of machines (89/392/EEC as amended by directives 91/368/EEC, 93/44/EEC and 93/68/EEC) with special reference to Annex 1 of the Directive on essential safety and health requirements in relation to the construction and manufacture of machines.

- COUNCIL DIRECTIVE of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility (89/336/EEC)

- COUNCIL DIRECTIVE of 19 February 1973 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (73/23/EEC)

was manufactured in conformity with the following national standards that implements a harmonised standard:

EN 292-1 Safety of machinery-Basic terminology, methodology
EN 292-2 Safety of machinery-Tech. Principles + specification
EN 60204-1 Safety -Electrical equipment of machines
EN 50081-1 Electromagnetic compatibility, Light industry
EN 50082-2 EMC: Immunity - Industrial environment

Position: Managing Director
Name: Tim Larsen
Company: **Danduct Clean**[®] Danmark

Date

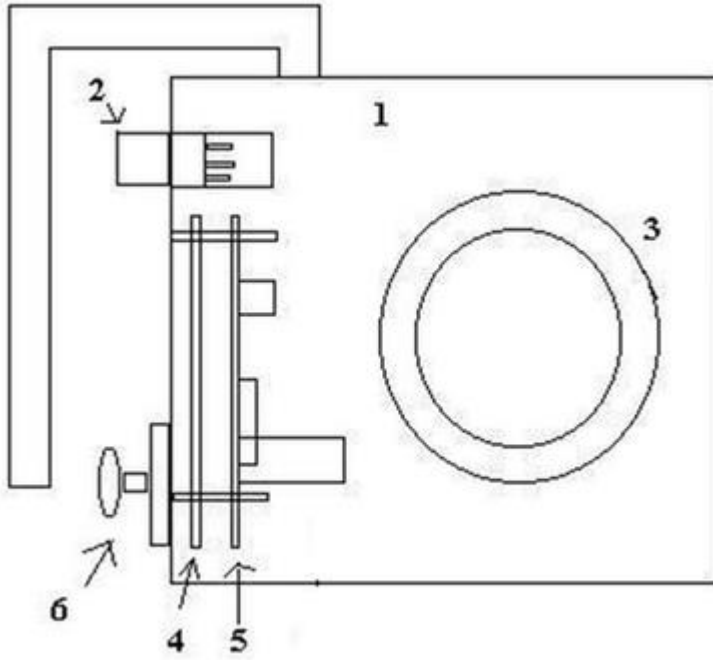
Signature

9.0 Sparepartlist for inspection robot

Prod. No.	Product	Pcs.
59550501	IN – Union nut M5	4
59550502	IN –Tyre	4
59550503	IN – Felloe	4
59550504	IN – Hexagon screws	4
59550505	IN – Engine with gear	2
59550506	IN- Shaft	2
59550508	IN – Hub with chain wheel	4
59550511	IN – Chassis	1
59550507	IN – Chain with assembler	2
59550513	IN – Cover with screws	1
59550715	IN – colour camera lens only	1
59550728	IN- B/W camera PAL/NTSC	1
59550728	IN – Colour camera PAL/NTSC	1
59550530	IN –Elbox (empty)	1
59550519	IN – 12 pin plug	1
59550540	IN – 7 pin plug	1
59405070	IN – 30 m cable	1
59405071	IN – 60 m cable	1
59550800	IN –Transportbox	1
59405072	IN – Truck	1

Sparelist for controlbox

Prod. No.	Product	Pcs.	Pos.
59405074	INB-Control box complete	1	1
59550605	INB-Fuses 3,15 A	1	2
59550608	INB-Joystick, type E	1	6
59550640	INB – Cable 230V	1	-
59550660	INB-Videocable with BNC plug	1	-
59550670	INB – Driver print card for steeringbox (big)	1	5
59550672	INB-Panel print card for steeringbox (small)	1	4
59550672	INB – Transformer	1	3



10.0 Delivery report.

Dealer name:
Owner's name:
Owner's address:
Equipment number:

Extent of delivery:

- Inspection truck
- Camera
- 30 meter of cable
- 60 meter of cable
- Control box
- Monitor
- Remote control
- Aluminum transport suitcase
- DVD
- Rubber device for adjusting focus
- Protective tube for small ducts
- Antenna cable
- 230 V cable for controlbox

Signed: _____
Dealer

Date: _____

Delivery report - to be completed by the end-user.

I have received:

- Operation and maintenance manual for danduct Clean® inspection equipment

The equipment has been delivered to me in a satisfactory condition, and I fully understand that the warranty is for a period of 12 months after the date of delivery. I accept that neglect of misapplication of the equipment as well as unauthorized modifications shall cause to void this warranty.

End-user's signature: _____

Title: _____

Date: _____

Warranty of the above equipment will not be effective before this form has been completed, properly signed and this original returned to

Danduct Clean® Danmark

Teglvaenget 63
7400 Herning
Denmark

within 20 days after delivery.

Comments: _____