Owners manual for Danduct Clean® cleaning machine DC4

Danduct Clean®
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Denmark

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1 Introduction.

We are pleased that you have chosen the Danduct Clean cleaning machine for your duct cleaning. 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 cleaning equipment.

The machine is manufactured in accordance with the machine council directive 89/392JEØF with changes 93/44IEØF and 93/6B/EØF as well as the Low voltage council directive 73/23/EØF.

2 EU Agreement statement / CE Declaration of Conformity

Supplier:

Company name: Danduct Clean®
Address: Teglvaenget 63
7400 Herning
Denmark

Phone: +45 97 12 30 30 Fax: +45 97 22 54 44

declares hereby that

Machine: Ductcleaning machine DC4

Brand name: **Danduct Clean®**

Type: 210250

is in accordance with

73/23IEØF Low voltage Council directive

referring to the rules in the Councils Directive from the 1th. of June 1989, about the mutual approach of the legislation by the member states for machines (89/392JEØF and changed by 91/368IEØF, 93/441EØF and 93/68/EØF) under special reference to the directives enclosure No. l about essential safety- and health demands in connection with the construction and manufacturing of machines.

The machine is produced in accordance to the following Danish standards, which are implemented in a harmonised standard according to article 5 subsection 2:

EN 292-1	Maskinsikkerhed-Grundlæggende terminologi, metodik
EN 292-2	Maskinsikkerhed-Tekniske principper +specifikation
EN 294	Maskinsikkerhed-Beskyttelse af hænder og arme
EN 60204-1	Alm. bestemmelser for elektrisk materiel

Title: Managing Director
Name: Tim Larsen
Company: Danduct Clean

Date Signature

3 Guarantee

The engine of the equipment is covered by a 36 months guarantee, which comes into force after Danduct Clean having received the signed delivery report.

The guarantee covers parts and replacement in our factory, or by one of our appointed distributors.

It is however a condition of the guarantee, that the instructions in this Owners manual has been followed, and that the equipment has been proper maintained.

☞ Brushes and shafts are not covered by the guarantee.

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

Claims to the guarantee from a third party is not covered.

4 Assembly of the equipment for operation.

The cleaning machine consists of the following basic items:

Aluminium box containing engine, frequency converter etc.
Shaft
Brushes

The equipment is made operational in the following way.

4.1 Open the lid, take out the power supply and connect it.

Please make sure, that the voltage and the frequency of the machine is corresponding with the supply 220/240 V or 110 V 50/60 HZ.

4.2 Connect the shaft to the cleaning machine

4.3 The end of the shaft with the outside hexagon is pressed against the inside hexagon in the engine. If the connection does not fall into place at once, try the following. Either twist the connection on the shaft or turn the shaft slightly to one side. The shaft is connected by means of the feather that is being pressed down, slide into the inside hexagon in the engine, turn until the feather will enter into the hole on the engine side of the hexagon.

4.4 Mount a brush at the brush-end of the shaft, screw fix.

If left-run is used on the machine, then the umbraco nut has to tighten. If it is not used, the brush will unscrew itself inside the duct.

4.5 When the switch is on O - the motor does not run

Turn the switch on R - the brush will run right

Turn the switch on L - the brush will run left

Turn the switch on R/L - the motor will in intervals run left and then change to right

By turning the TIMER R/L you are able to adjust the time of the intervals of the left/right movement. If you set the timer on 6, the motor will run right for 6 seconds and then 6 seconds to the left and continue with changing rotation every 6 seconds. This system is very good in rectangular ducts.

By turning the SPEED CTR knob you can regulate the speed of the engine from 350 rpm to 1120 rpm.
Inside the electrical box you can see a display which is indicating the Hz values. Using below list you can convert the values into rotations per minute (rpm)

1	15	Hz	=	350	rpm
2	17	Hz		475	rpm

3	19	Hz		550	rpm
4	22	Hz		600	rpm
5	25	Hz		700	rpm
6	28	Hz		780	rpm
7	31	Hz		850	rpm
8	34	Hz		950	rpm
9	37	Hz		1030	Rpm
10	40	Hz		1120	Rpm

4.6 The machine is activated by means of the foot switch.

5 Operation of the equipment.

5.1 Operating environments

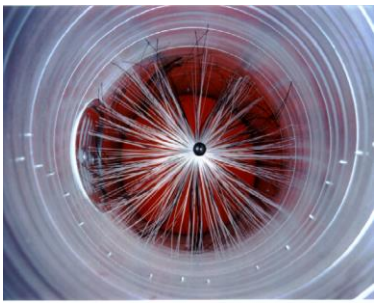
The duct cleaning machine is designed to be used in tubes and ducts in suction plants and ventilation systems.

The following guidelines should be observed.

The machine is not designed for working in greasy ducts and ducts containing hard deposits like lime etc.

☞ Note, the equipment may not be used in an explosive environment. Do not use the equipment in chemical environments which might damage metal, the polypropylene brush or the PVC hose.

5.2 Operating the equipment



Choose the direction for the rotations.
Insert the brush into the duct.
The machine is activated by means of the footswitch, and the shaft is entered to the duct.

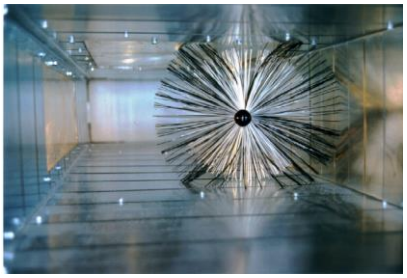
By cleaning please note the following.

☞ The best cleaning result is achieved by a speed of approx. 800-850 rpm. The speed control being set on 6-8. The shaft will then rotate easily and steadily in the centre of the duct.

By cleaning of round ducts you can choose either to rotate left or right

By cleaning of rectangular ducts where the width is not more than twice the heights you can choose to go right in. Change the direction of the switch and you will go out rotating the opposite way.

By cleaning of rectangular ducts where the width is more than twice the size of the height the machine should be put on R/L. The brush will then automatically move



from one side of the duct to the other and thereby also cleaning the midsection. The time of the reversing is set on the TIMER R/L.

With the SPEED CTR the desired speed is set.

- Always use the right size of brush. If the brush does not fit the duct, an oversize brush of maximum 25% can be used.
- Do not try to force the brush further than a normal person can push the shaft. If the brush meets an obstruction like dampers, reductions etc., the extra force is producing a reaction to the shaft. The shaft might start to move, and the cleaning should only be continued carefully or stopped.
- The shaft is rolled totally out (no resistance of the shaft outside the duct)
- Adjust the speed of the brush all depending on the size of the brush that is being used (Small brush needs less speed than a big brush)
- Take care that the shaft is not caught in a door or in any other way squeezed.
- The shaft is not being squeezed under transportation
- Make the DC4 machine to point in the direction of the longest part of the shaft (Many times the away from the opening in the duct).

6 Troubleshooting.

Problem	Cause	Solution
Machine does not run	No power	Check power supply
Machine running, brush not Rotating	Brush has fallen of	Mount brush and tighten the Umbraco nut
	Broken shaft	If the shaft is broken at the Brushend, a new connection can be mounted. Please contact a distributor appointed by us.

7 Technical data.

Machine

Voltage: 240 or 110V AC
Frequency: 50 or 60 Hz

Current:	110V = 4,8 amp or 220V = 2,3 amp
Power:	0,370 Kw
Engine speed:	630 - 1400 rpm
Noise level:	< 70 dB (A)
Weight machine:	23 kg

Shaft

Lengths:	5, 10, 15, 20, 25, 30m
Hose:	10 mm antistatic PCV hose.
Shaft core:	4 mm solid steel coil shaft
Weight 20m shaft:	3,7 kg

8.0 Sparepartlist for ductcleaning machines

Prod. no.	Product	Pcs.	Pos.
59610001	DC4 - Aluminum box	1	1
59610002	DC4 - Bearing plate with screws	1	2
59610003	DC4 - Engine 0,37 kW	1	3
59610004	DC4 - Insulation ring with keyway	1	4
59610005	DC4 - Insulation ring with screws	1	5
59610006	DC4 - Cable for Foot switch	1	6
59610007	DC4 - Foot switch with screw-joint	1	7
59610008	DC4 - Cable, motor / frequencyconverter	1	8
59610009	DC4 - Sign, Motor	1	9
59610010	DC4 - Switch with frontplate	1	10
59610011	DC4 - Sign, Timer R/L	1	11
59610012	DC4 - Timer complete with socket	1	12
59610013	DC4 - Sign, Motor	1	13
59610014	DC4 - Potentiometer with pushbutton and scale	1	14
59610015	DC4 - Metalbox for el. parts	1	15
59610016	DC4 - Screw-joint with nut	2	16
59610017	DC4 - Screw-joint with nut	1	17
59610018	DC4 - Cable, supply	1	18
59610020	DC4 - Bearing plat with screws	1	20
59610021	DC4 - EMC filter with freq.converter 230 V 50/60 Hz	1	21
59610022	DC4 - EMC filter with freq.converter 110 V 50/60 Hz	1	22

Prod. no.	Product	Pcs.	Pos.
59613003	DCS4 - Coupling for shaft S = 2,7 mm	1	1
59613004	DCS4 - Coupling for shaft M = 4,0 mm	1	1
59613010	DCS4 - Coupling for hose	1	2
59613011	DCS4 – Spring	1	3
59613012	DCS4 - Screw-joint (brass)	1	4
59613014	DCS4 - Brass ring	1	5
59611101	DCS4 - Hose antistactic PA	Mtrs	6
59611127	DCS4 - Innercore shaft Ø 2,7 mm	Mtrs	7

59611140 DCS4 - Innercore shaft Ø 4,0 mm	Mtrs	7
59613013 DCS4 - Bush for hose	1	8
59613103 DCS4 -Connector for the brush S = 2,7 mm	1	9
59613104 DCS4 -Connector for the brush M = 4,0 mm	1	9

9. Delivery report.

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

Extent of delivery:

- ☐ Cleaning machine
- ☐ 5 meter shaft
- ☐ 10 meter / 30 feet shaft
- ☐ 15 meter / 50 feet shaft
- ☐ 20 meter / 60 feet shaft
- ☐ 25 meter / 60 feet shaft
- ☐ 30 meter / 60 feet shaft
- ☐ Brushes

Signed: _____ Date: _____
Dealer

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 36 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 within 20 days after delivery returned to

Danduct Clean A/S
Teglvaenget 63
7400 Herning
Denmark

Comments: _____