OPERATORS MANUAL

ROOM AIR CLEANER

c.a.850

Unit manufactured by:

KARSTULAN METALLI OY
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Unit & spares supplied by:

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PRODUCT MANUAL

1 INTRODUCTION

1.1 General

This document has been produced by Karstulan Metalli Oy (KM) to give information concerning their range of room air cleaner, covering the operation and working principles.

KM room air cleaners have their own fan and filter system. The c.a.850 is a free standing model; a separate table can be supplied on customer's request. The c.a.850 works by drawing the air from the room in which it is situated and through the intake filter situated at one end of the unit; the air passes via the through the Hepa filter back into the room .

The c.a.850 is designed for the reduction of airborne particles that can be a health risk to the worker.

1.2 Application

The room air cleaners are to be used in hospitals, health clinics and both pharmaceutical, research laboratories schools and normal households. The room air cleaners are used for various procedures where you require to reduce the number of airborne particles to be drawn away from the product and worker.

2 TECHNICAL INFORMATION

2.1

Model	External dimensions width x depth x height
c.a.850	550 x 670 x 550mm

2.2

Weight	Net	Packed for shipment
c.a.850	46kg	50kg

2.3

Filters	Main filter	Intake filter
c.a.850	475 x 475 x 78mm	460 x 440 x 10mm

2.4

Air volume M^3/h	Max
c.a.850	850

3 TRANSPORTATION – LIFTING AND ASSEMBLY INSTRUCTIONS

3.1 Transportation and storage

For export the room air cleaners are firstly wrapped in plastic film then placed into a cardboard box with polystyrene to protect the unit from moving inside the box. The plastic film protects the unit from dust and dampness.
Units must not be stored outside. They must be stored in a warm and dry place.

4 Lifting and assembly

The room air cleaner is free standing, after the unit has been removed from the box with the protective plastic film removed it is ready to use.
The electrical connection is on the back right hand corner, insert the lead connector and then place the plug into a suitable electrical socket.

5 CONSTRUCTION

The room air cleaner is an epoxy powder painted zinc steel case; the room air cleaners surfaces are easily cleaned and disinfected.

5.1 EQUIPMENT

The room air cleaner has a fused on/off switch located at the back of the unit where the electrical lead is connected, The unit also has the main on/off switch located on the front of the unit above the switch is the step less fan speed control 0 – 100% air volume.

6 SITUATING THE ROOM AIR CLEANER

The room air cleaner is to be placed onto an even work surface, situated in a position where it can obtain maximum air circulation in the room.
The unit is not recommended to be situated near to a door or opening window, it is advised to situate the unit leaving a minimum of 20cm free space in front of the intake filter, also not to have any obstruction in front of the unit which will reduce the effectiveness of the air flow.
The cabinet must be plugged into an earthed electrical socket, (230v, 50 Hz, fuse 6 amp). It is advised to plug the cabinet directly to a socket and not use an extension cable where other equipment is also connected.

7 GENERAL INSTRUCTIONS, TURNING ON

When the room air cleaner has been plugged in and switched on at the back of the unit, you can then switch the unit on using the on/off switch on the front of the unit. After switching on the fan listen to check that the fan is spinning freely, adjust the fan speed to the desired speed.
Before commencing work with the cabinet wipe all surfaces with 70% alcohol.
The unit can clean 850m^3h, calculate the size of your room and how many changes of air per hour need; from this you can calculate what speed the fan has to work 0-100% air volume.

7.1 WORKING PRINCIPLE

The fan draws air through the intake filter at the end of the unit. the fan then pushes the air through the Hepa filter back into the room.

8 ELECTRICAL COMPONENTS AND INFORMATION

The cabinet has been EMC tested and complies to the standards: EN50081-1, EN50082-1 and EN50015 which includes the following:
EN55022 (1994), EN55015 (1996), IEC801-3 (1984), IEC801-4 (1988), EN55014 (1993), EN61000-3-2 (1995), EN61000-3-3 (1995).
The cabinet holds the CE sign for electrical safety EN 60 335-2-80:1997

8.1 Electrical supply

The fume cabinet electrical supply 230v, 50Hz, single phase.

8.2 Fan

In room air cleaner is the centrifugal motor fan, the fan is statically and dynamically designed for balance, thus giving the quietest running speed possible.

	Fan	Power	Voltage
c.a.850	D2E 146-AP47-22	330w	240v /50Hz

9 AIR REGULATING SYSTEM

Regulating system comprises of the fan and its motor, with pressure distribution through the HEPA filter.

9.1 Fan and Motor

The fans speed can be regulated with the step less transformer 0-100%.

10 Filters

This unit is supplied with a carbon filter for the removal of ammonia fumes.
The HEPA filters are constructed within a frame, with the fibre material making up the filter being pleated and sealed into position. With the filter being pleated this way it gives the largest possible surface area available, i.e. a filter with dimensions of 610 x 915 x 69mm has an area surface of 15 m2
The filters are checked to standard EN 1822 Class H13.

11 MAINTENANCE

11.1 Cleaning

The cabinet is to be cleaned regularly the outer surfaces are to be wiped with 70% alcohol.

11.4 Intake filter maintenance

The intake filter is to be well maintained, this is the best way of prolonging the life and efficiency of the Hepa filter. The intake filter is to be washed after 160-180 working hours. The intake filter is situated in the upper front panel of the cabinet behind the grille; the grille is removed by turning the four plastic locking screws by half a turn. The filter can be washed in warm water 40c, using a soft detergent i.e. fairy liquid. After being washed leave the filter to dry do not fold or squeeze, the filter cab be washed up to 5 times before being discarded, a record of washing times can be kept on the intake filter calendar.

11.5 Carbon filters

The Carbon filters are recommended to be changed after 12 months. The manufacturer / supplier will keep a maintenance record of the cabinet. Maintenance can be arranged
with a service contract with the supplier.

12 CHECKS AND STANDARDS

Before the room air cleaner is tested for air flow speed, air particle count and noise level, a report is supplied with the cabinet on delivery.
The programme follows the guidelines of the ISO standards with which our cabinets also comply too. Air flow and HEPA filters are to be checked at least once a year.

TECHNICAL INFORMATION AND SPARE PARTS LIST

Model c.a.850

PART	MODEL	AMOUNT	SUPPLIER
Fan	D2E 146-AP47-22	1	Ziehl-Ebm
Main filter	457 x 457 x 78mm	1	Monmouth Ltd
Intake filter	460 x 440 x 10mm	1	AAF
Transformer	Step less	1	Polarvent Oy
Connection lead	earthed	1	Partco Oy

KARSTULAN METALLI OY

c.a.plus and c.a.350 Technical specification.

Construction:
Steel frame: DGO1 AMO 1,25mm (fe 37 kyva), EN10 025.1993.
Powder coating paint , Technos;
Ral 9010 , thickness 80microns.

Components:

Main filter: 457*457*78mm
Intake filter: Polyamide fibre filter EU3.
Fan: type, D2E 146-AP47-22. Ziehl Ebm GmbH.
Transformer: 1phase variable 0-230V 1A RV230/1 G0045. Schuntermann GmbH.
Power inlet connection: Z0717-1S (max 10Amp).
Fuse: 6 amp glass fuse.
On / Off switch: 1835. R87.
Wiring: MKEM 1.5mm plastic coated.

On behalf of the company

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