

DanX

Service manual

EN

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Dantherm can accept no responsibility for possible errors and changes
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Dantherm n'assume aucune responsabilité pour erreurs et modifications éventuelles

Introduction

Overview

Introduction

This is the service manual for the Dantherm Air Handling DanX unit.

The index below shows the main sections of the manual. For further information see the complete table of contents on page 4.

Warning

It is the operator's responsibility to read and understand this manual as well as other information and to use the correct operation and maintenance procedure.

The unit should only be operated by qualified (trained) persons. Repair of cooling circuit/electrical system must be done by skilled service engineers. If such precautions are neglected, persons or equipment may be injured or damaged.

Not included

This manual does not include information about:

- Transport, mounting, installation, start and commissioning of the unit
Separate instructions are delivered with the unit
- Function and use of the control
Separate instructions are delivered with the unit, if the control is included in the delivery from Dantherm Air Handling A/S
- Technical information/data including electrical documentation
Delivered separately with the unit

Contents

This service manual deals with the following:

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Table of contents

Introduction This is the complete table of contents that covers all sections of the service manual. Each main section has an introduction that includes a table of contents for that particular section.

Contents This manual covers the following items:

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General information

Introduction	This section includes general information on the unit and the service manual.												
Target group	The service manual's target group is the service engineers that maintain the unit.												
Not included in the manual	<p>The following is not included in this manual, but described separately:</p> <ul style="list-style-type: none"> • The transport, mounting and installation guide • The user's guide for control, if such is delivered • Technical information, including electrical documentation 												
Copyright	Copying of this service manual, or part of it, is forbidden without prior written permission from Dantherm Air Handling.												
Reservations	Dantherm Air Handling reserves the right to make changes and improvements to the product and the service manual at any time without prior notice or obligation.												
EC-Declaration of Conformity	<p>Dantherm Air Handling A/S declares that the DanX units comply with the following directives:</p> <table border="0"> <tr> <td>98/37/EEC</td> <td>Directive on machine safety</td> </tr> <tr> <td>73/23/EEC</td> <td>Low voltage directive</td> </tr> <tr> <td>89/336/EEC</td> <td>EMC directive</td> </tr> </table> <p>and are produced in accordance with the following standards:</p> <table border="0"> <tr> <td>EN 292-1</td> <td>Machine safety</td> </tr> <tr> <td>EN 292-2</td> <td>Machine safety</td> </tr> <tr> <td>EN 60 204-1</td> <td>Electrical equipment for machinery, part 1 – General requirements</td> </tr> </table> <p>We do not allow use of the units until the machine into which the parts are to be incorporated has been declared to be in full accordance with the relevant directives.</p>	98/37/EEC	Directive on machine safety	73/23/EEC	Low voltage directive	89/336/EEC	EMC directive	EN 292-1	Machine safety	EN 292-2	Machine safety	EN 60 204-1	Electrical equipment for machinery, part 1 – General requirements
98/37/EEC	Directive on machine safety												
73/23/EEC	Low voltage directive												
89/336/EEC	EMC directive												
EN 292-1	Machine safety												
EN 292-2	Machine safety												
EN 60 204-1	Electrical equipment for machinery, part 1 – General requirements												
Other declarations	<p>Russia: </p>												
Recycling	The unit is designed to last for many years. When the time comes for the unit to be recycled, the unit should be recycled according to national rules and procedures to protect the environment.												

User's guide

Overview

Introduction This is the user's guide to the settings that can be made directly on the DanX unit (not control settings).

A separate user's manual for the control is included if the unit is delivered with control from Dantherm Air Handling A/S.

Note! Not all DanX units are delivered with thermostats and pressure switches.

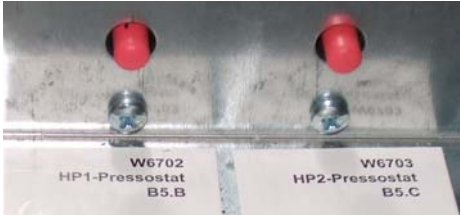
Contents This section deals with the following items:

Item	See page
How to reset the HP pressure switch	Next page
How to reset the fire thermostat	8
How to reset the frost thermostat	9
How to adjust fan belts	10
How to adjust the number of fan rotations	11

How to reset the HP pressure switch

Procedure, high-pressure switch

The high-pressure switch has manual reset.
 Do as follows to reset the high-pressure switch:

Step	Action
1	Open the door to the compressors and locate the high-pressure switch on the cold-conductor
2	Press the red button to reset the high-pressure switch. There is one button for each compressor <div data-bbox="742 698 1203 913" style="text-align: center;">  </div>
3	Close the door


How to reset the fire thermostat

Fire thermostat The fire thermostat is an on/off function. A signal is given to the control if

- the air inlet temperature is higher than the pre-set temperature, e.g. + 70 °C or
- the extract air temperature is higher than the pre-set temperature, e.g. + 40 °C

If the unit is delivered with control from Dantherm Air Handling, the release of the fire thermostat will switch off the ventilation unit.


Procedure Do as follows to reset the fire thermostat:

Step	Action
1	Localize the fire thermostat which may be placed either <ul style="list-style-type: none"> • in the return air at the top of the heat exchanger module or • in the supply air duct
2	Press the red button to reset the fire thermostat <div data-bbox="833 949 1110 1391" style="text-align: center;">  </div>

How to reset the frost thermostat

- Frost thermostat** An alarm is sent to the controller^{*)} if:
- the temperature falls below the preset temperature on the thermostat, which is 8 °C
- If the frost thermostat is released, the unit turns off, the water valve opens and the circulation pump that may be connected (accessory) will start running.
- ^{*)} If the unit is delivered with control from Dantherm Air Handling.

Procedure Do as follows to reset the frost thermostat:

Step	Action
1	Open the door to the frost thermostat that is placed closed to the re-heating coil
2	Push the green button forward to reset the frost thermostat
	
3	Close the door

How to adjust fan belts

Tightening of belts

Do not tighten the belts too much, as this will wear out the ball bearings and thus reduce their life time.

Dantherm recommends

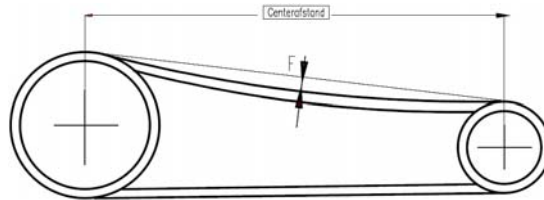
Dantherm Air Handling A/S recommends the use of special tools for the tightening of belts in order to check the values of the table below.

Correct tightening of belts

The deflection (F) on the drawing below must be in accordance with the mm indications of the table (last column).

The deflection strength of each belt is dependent on the profile type and the distance between the centres.

Use the drawing and the table to establish the correct belt tightness:



Belt profile (type)	Centre distance (mm)	Deflection strength (kg)	Deflection, F (mm)
SPZ-XPZ	300-400	1,5	7
	400-500		9
SPA-XPA	500-600	2,7	11
	600-800		13
SPB-XPB	800-1000	5,0	15

Procedure

Do as follows to adjust the fan belts:

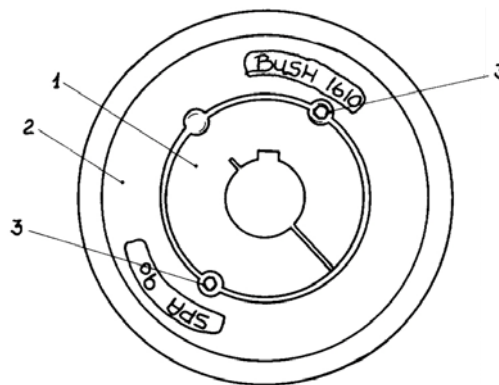
Step	Action
1	Adjust the belt by the motor bracket's adjusting screw. See the table and the figure above for correct belt tightness

How to adjust the number of fan rotations

Note! Considering the motor size and the allowed working range of the fan the adjustment of the number of fan rotations should be done by a specialist.

Adjustment of fan pulleys By pulley-driven fans the motor and fan shafts have Taperlock pulleys for quick change of fan rotations.
The number of fan rotations is defined by the number of motor rotations and the relation between the diameters of the two pulleys.
Dependent on the motor size the pulleys have 1-, 2- or 3 grooves.

Illustration Taperlock pulley:



Part/function This scheme applies to the above drawing:

Part	Function
1	Taperlock
2	Pulley
3	Screws

Procedure Do as follows to replace the pulleys:

Step	Action
1	Unscrew the Allen screws ③ and pull off the pulley ② from the motor shaft
2	Fit a new pulley, smaller or larger, that matches the requested RPM and re-fix the Allen screws

Continues overleaf

How to adjust the number of fan rotations, *continued*

Calculation of flow The flow of the unit can be calculated by measuring the pressure difference between the suction side of the fan and the inlet cone of the fan.

DanX- modules with plug fans are fitted with a measuring stub which is positioned on the suction side of the fan and a stub which is positioned in the inlet cone of the fan.

In case of flow a pressure difference will be created between the two measuring points. The negative pressure in the inlet cone of the fan is getting bigger than on the suction side of the fan.

Flow and pressure difference The relation between flow and pressure difference is as follows:

$$V = K * \sqrt{\Delta p_w}$$

Symbol	Description	Unit
V	Messured flow	[m ³ /h]
Δp_w	Pressure difference	[Pa]
K	Constant specifically valid for each single unit size (see table below)	-

K factor

K for each unit size is shown in the table:

Type	K Factor
DanX 2/4	121
DanX 3/6	154
DanX 5/10	197
DanX 7/14	308
DanX 9/18	381
DanX 12/24	490
DanX 16/32	620

Service guide

Overview

Introduction This section contains any relevant information for the service of the DanX unit.

It includes:

- a survey for the planning of service inspections
- a description of all the components that require preventive maintenance
- general information on spare parts, fault finding etc.

Below please find a list of the main sections.

Preventive maintenance For optimum operation conditions and a long life it is necessary to perform preventive maintenance on the various unit parts within the stipulated intervals. Read more about intervals in section "Planning of service inspections, overview", page 14

Guarantee The factory guarantee is only valid when the preventive maintenance is in accordance with the guidelines of this section. Written documentation must be available.

Quick and easy Dantherm Air Handling A/S has put great efforts into making the maintenance work as quick and easy as possible.
Among other things the unit has inspection doors for easy access to the parts to be serviced.

Warning! Do not forget to disconnect all current to the unit and the unit parts before service.

Contents This section includes the following:

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Planning of service inspections, overview

Introduction This section describes the parts that need regular service.
See separate descriptions for the kind of service needed and the practical performance.

Categories Dantherm Air Handling has categorized the service inspections into the following:

- 4 times annually
- Every 5000 operation hours and at least once annually
- Once annually
- When the catalogue value for recommended end pressure loss has been exceeded

4 times annually Check the following parts at least 4 times annually to ensure optimum operation:

Component	Service	Ref.
Rotary heat exchanger	Inspection/tightening of belt	Page 20
Fan	Inspection/tightening of pulley	Page 18

5000 operation hours/annually Check the following parts after 5000 operation hours and at least once annually to ensure optimum operation:

Component	Service	Ref.
Fan	The ball bearings of large fans are lubricated The ball bearings of large motors are lubricated	Page 18

Once annually Check the following parts at least once annually to ensure optimum operation:

Component	Service	Ref.
Cabinet	Clean the cabinet Check gaskets and lock fittings.	Page 17
Damper	Check the tightness	Page 32
Rotary heat exchanger	Check that the rotor is clean and runs smoothly Check the gasket brushes Check the function of the driving system	Page 22
Cross-flow heat exchanger	Check the heat exchanger Check the bypass damper tightness and lubricate the movable parts of the bars connected to the damper motor Clean the condensate tray, the outlet and the drain trap	Page 20

Continued overleaf

Planning of service inspections, overview, *continued*

Once annually, *continued*

Component	Service	Ref.
Run-around heat exchanger	Check for dirt Air the coils Clean the condensate tray, the outlet and the drain trap (extract air) Check/clean the pump	Page 24
Heating coil	Check for dirt Air the coils Check the frost thermostat	Page 30
Cooling coil	Check for dirt Air the coils Clean the condensate tray, the outlet and the drain trap Check the condensation amount	Page 31
Fan	Check the fan wheel Check the vibration dampers and the flexible connections	Page 18
Air distributor	Check for dirt	Page 33

Catalogue value

To ensure optimum operation check the following parts when the catalogue value for the recommended end pressure loss has been exceeded (or before).

Component	Service	Ref.
Bag filter	Check and exchange the gaskets at filter boxes	Page 28
Panel filter	Exchange the panel filter	Page 28

Preventive maintenance

Introduction

For optimum operation conditions and a long life it is necessary to perform preventive maintenance on the various unit parts within the stipulated intervals. Read more about intervals in section "Planning of service inspections, overview", page 14.

Guarantee

The factory guarantee is only valid when the preventive maintenance is in accordance with the guidelines of this section. Written documentation must be available.

How to service the cabinet

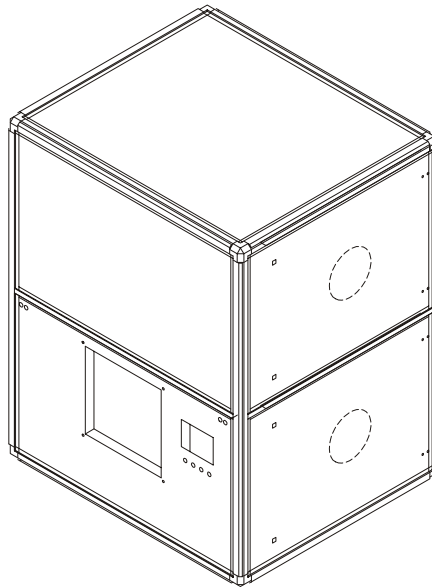
Interval The cabinet should be cleaned once annually.

Before you start Make sure that the following is available before start:

- Cloth, water and, if necessary, detergent

Warning! Do not forget to disconnect all current to the unit and the unit parts before service.

Illustration The cabinet:



Procedure Do as follows to service the cabinet:

Step	Action
1	Use a dry cloth to clean the cabinet. Note: it may be necessary to use water and detergent
2	Lubricate the lock fittings
3	Lubricate the metal hinges and the inspection doors
4	Clean gaskets and inspection doors and check for leaks. Dantherm recommends the use of waterproof protection for the gaskets
5	Check gaskets and lock fittings

How to service fans and fan motors

Interval

Fan and motor are serviced in accordance with the following intervals:

4 times annually:

- Belt drive

Once annually:

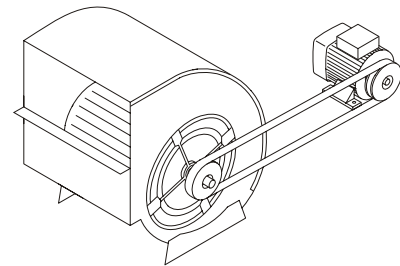
- Fan wheel
- Vibration dampers and flexible connections

Warning!

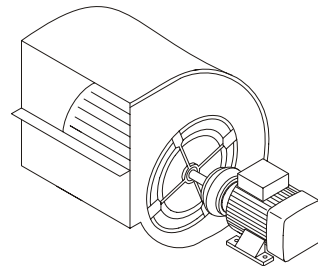
Do not forget to disconnect all current to the unit and the unit parts before service.

Illustrations

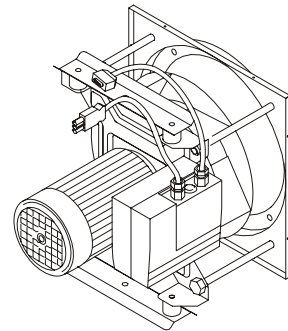
Belt-driven fans



Direct-driven fans



Plug fans



Procedure

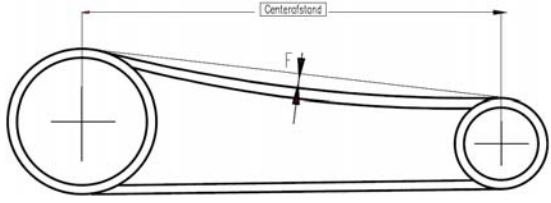
Do as follows to service the fan:

Step	Action
1	Check and clean, if necessary, the fan wheels for dust that may cause unbalance and vibrations. If necessary, replace the bearings
2	Steps 2-4 only apply to belt-driven fans! Check the belt drive for wear and tear and replace the belts if necessary. NB: If one belt of a belt drive is worn, all belts of the belt drive are to be replaced! Do not use new and used belts together, as they are of different lengths

Continued overleaf

How to service fans and fan motors, *continued*

Procedure, *continued*

Step	Action										
3	Check that the pulleys are placed correctly and are completely parallel										
4	<p>Check that the fixing of the belt drive has been correctly adjusted. Check the belt tightening by controlling that the deflection (F) matches the specifications below (mm). The deflection strength of each belt depends on the belt profile type used and the centre distance.</p> <p>Dantherm Air Handling recommend the use of special-purpose tools for the measuring of the belt tightening in order to ensure the control of the values of the table below</p> <div style="text-align: center;">  </div> <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>Belt Profile (type)</th> <th>Centre Distance (mm)</th> <th>Deflection Strength (Kg)</th> <th>Deflection, F (mm)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">SPA-XPA</td> <td>500-600</td> <td rowspan="2">2,7</td> <td>11</td> </tr> <tr> <td>600-800</td> <td>13</td> </tr> </tbody> </table>	Belt Profile (type)	Centre Distance (mm)	Deflection Strength (Kg)	Deflection, F (mm)	SPA-XPA	500-600	2,7	11	600-800	13
Belt Profile (type)	Centre Distance (mm)	Deflection Strength (Kg)	Deflection, F (mm)								
SPA-XPA	500-600	2,7	11								
	600-800		13								

Procedure, 5000 operation hours/annually^{*)}

Do as follows to service the fan ball bearings:

Step	Action
1	Check the wear and tear of the vibration-damping rubber bushings ^{*)} into which the fans' ball bearings are fitted ^{*)} only fans that have rubber bushings
2	Control the vibration dampers and the flexible connections

How to service the rotary heat exchanger

Illustration

Rotary heat exchanger:



Interval

To ensure a long lifetime and continuous operation of the DanX unit, the rotary exchanger should be maintained once annually as described below. See "Procedure". The rotary heat exchanger should be serviced once annually.

Before start

The following should be available before service:

- Soft brush
- Fat-dissolving detergent
- Compressed air
- A vacuum-cleaner

Not included

This section does not deal with service of the bypass damper, which is described separately under Accessories. See "How to service dampers", page 32

Warning!

Do not forget to disconnect all current to the unit and its parts before service. Take care when cleaning the rotary heat exchanger so that you do not damage the surface of the heat exchanger. Avoid the use of hard objects on the surface.

Procedure, preventive maintenance

The preventive maintenance is done as described below:

Step	Action
1	Check the rotary exchanger for dirt. (You may use a torch to see through it from both sides)
2	Dust should be removed from the inlet edges. Use compressed air, a vacuum cleaner or a soft brush
3	Check that the brushes round the rotor are tight

Continued overleaf

How to service the rotary heat exchanger, *continued*

Procedure, preventive maintenance

The rotary heat exchanger is serviced as described below:

Step	Action
1	Check that the brushes are intact
2	Use a soft brush to remove dust on the edges of the rotary heat exchanger
3	Wash with fat-dissolving detergent to remove fat or dirt on the edges of the heat exchanger
4	If necessary, clean the heat exchanger by compressed air. Use a vacuum cleaner to remove dirt from the opposite side of the heat exchanger
5	Check that the brushes around the rotor are undamaged and tight-fitting.
6	Check the rotor driving belt and the transmission.

How to service the cross-flow heat exchanger

Interval The cross-flow heat exchanger is serviced once annually.

Before start The following should be available before start:

- A soft brush
- Fat-dissolving detergent
- High-pressure cleaner with atomizer

Warning! Do not forget to disconnect all current to the unit and its parts before service.
Take care when cleaning the exchanger so that you do not damage the surface of the heat exchanger.
Avoid the use of hard objects on the surface.

Special conditions Where a unit is used in connection with exhaust e.g. from a kitchen with fatty air, exhaust hood filters etc. must be cleaned every day to ensure optimum performance and to protect the heat exchanger. The unit must be switched off, when the fat filters are removed.

Illustration A cross-flow heat exchanger:



Preventive maintenance To ensure a long lifetime and continuous operation of the DanX unit, the cross-flow heat exchanger should be maintained once annually as described below. See "Procedure".

Note! Take care when cleaning the rotary heat exchanger so that you do not damage the surface of the heat exchanger.

Continued overleaf

How to service the cross-flow heat exchanger, *continued*

Procedure, preventive maintenance

The preventive maintenance is done as described below:

Step	Action
1	Check the heat exchanger plates and inlet for dirt. (You may use a torch to see through it from both sides)
2	Dust should be removed from the inlet edges. Use a soft brush
3	Internal fat and dirt is dissolved and removed by detergent
4	Subsequently you may use a high-pressure cleaner with atomizer to rinse the heat exchanger internally – use compressed air for dry dirt. Water and dirt is removed from the opposite side of the exchanger

Procedure, service

The cross-flow heat exchanger is serviced as described below:

Step	Action
1	Check that the edges of the heat exchanger plates are clean and intact
2	Use a soft brush to remove dust on the edges of the heat exchanger
3	Wash with fat-dissolving detergent to remove fat or dirt on the edges of the heat exchanger
4	If necessary, clean the heat exchanger by means of a high-pressure cleaner with atomizer. Use a water vacuum cleaner to remove water and dirt from the opposite side of the heat exchanger
5	Clean the condensate tray under the heat exchanger as well as the drain and the drain trap connected to it

How to service run-around heat exchangers

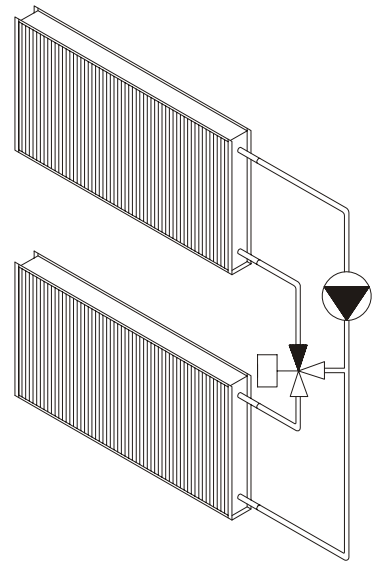
Intervals Once annually.

Before start The following must be available before service:

- Compressed air or vacuum cleaner
- a soft brush

Warning! Do not forget to disconnect all current to the unit and the unit parts before service. Take care not to damage the slats of the coils.

Illustration The run-around heat exchanger:



Reduction of capacity After many hours of operation dust may settle on the coil surfaces. This can reduce the recovery capacity, and preventive maintenance is consequently important.

Procedure Do as follows to service the run-around heat exchanger:

Step	Action
1	Check the coils for dust or dirt. If necessary, clean the alu slats by a soft brush and a vacuum cleaner. Alternatively you may blow compressed air through the coil against the normal air direction
2	Straighten any bent slats using appropriate tools
3	Air the coil circuits through the exhaust valve of the pipe system (air in the pipe system may reduce the capacity)
4	Service the pump according to the pump manufacturer's directions
5	Check the positive pressure of the pressure expansion system. If necessary, pump it to the correct level

Continued overleaf

How to service run-around heat exchangers, *continued*

Procedure,
continued

Step	Action
6	Clean the condensate tray, the drain and the drain trap from the drip tray under the cooling coil
7	Check and clean the eliminator plate (if the unit is equipped with one). Use compressed air and a soft brush

How to service the heat pump

Introduction This guide to the service of the heat pump contains procedures for preventive maintenance and for check of relevant functions.

Intervals Once annually.

Before start The following must be available before start:

- A soft brush
- A vacuum cleaner
- Proper tools to straighten bent slats
- Common detergents

Warning! Do not forget to disconnect all current to the unit and the unit parts before service.

Procedure, maintenance Do as follows to service the heat pump:

Step	Action
1	Check the coils for dust or dirt. If necessary, clean the alu slats by a soft brush and a vacuum cleaner. Alternatively you may blow compressed air through the coil against the normal air direction
2	Straighten any bent slats using appropriate tools
3	Check and clean drip trays for dirt. See to it that there is a free flow through the drain. Note: the water trap must be full
4	Check the sight glass in the liquid pipe of the cooling circuit. During stable operation (but not by change and start) it must be full and free of bubbles
5	Check the pipe assemblies for refrigerant leaks (occur together with oil leaks) and the refrigerant container (the receiver) for a certain amount of refrigerant

Continued overleaf

How to service the heat pump, *continued*

Procedure, check of functions Do as follows to check the heat pump functions:

Step	Action
1	Check that the HP and LP pressure gauges show the expected or the previously noted pressure. Some deviation is to be expected because of different temperatures inside the unit or change to summer/winter operation or defrosting mode
2	Check that there is perceptible cooling over the evaporator and heating over the condenser
3	Check that the compressors are hand-warm at the top during operation and that the electrical heating element (pull-out) at the bottom of the compressor is constantly warm

How to service the filter

Introduction

There are two kinds of filters:

- Bag filters
- Panel filters

This section deals with the service of both filters. The illustrations will help you decide which kind of filter is used in your DanX unit.

Intervals

The filter must be exchanged when the pressure loss exceeds the recommended end pressure loss, see table on page 29.

The concentration of dust in the air that passes through the filter decides the intervals.

Use the following methods to decide whether a filter needs to be replaced:

- A filter guard (if fitted) will give a signal when the filter needs to be replaced
- A differential pressure gauge will show the pressure loss of the filter; see table

If there is no mechanical equipment to check the pressure loss, replace the filter when you think it necessary.

Before start

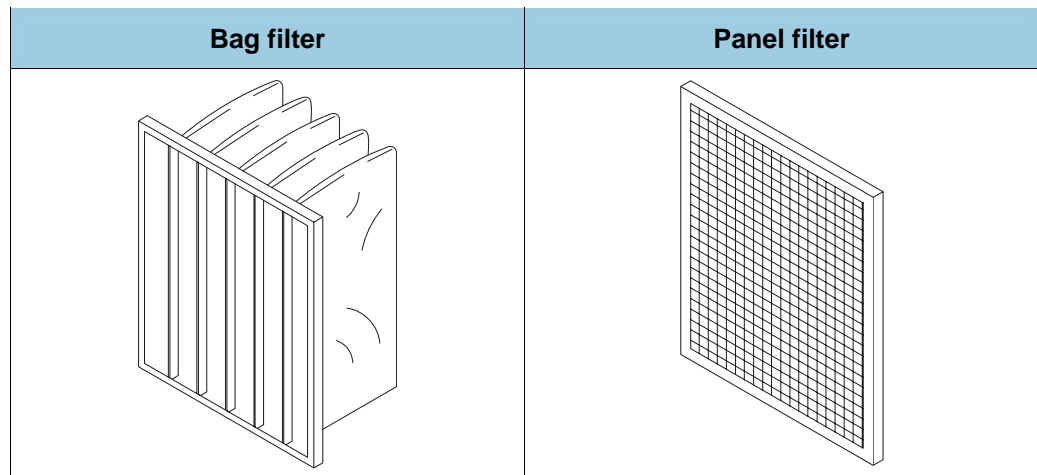
No special tools are needed.

Warning!

Do not forget to disconnect all current to the unit and the unit parts before service.

Illustration

The two types of filters:



Continued overleaf

How to service the filter, *continued*

Procedure, bag filter

Do as follows to replace the bag filter:

Step	Action
1	Loosen the bag filters by turning the handles
2	Pull out the filters from the unit
3	Clean the frame profiles
4	Check that the rubber gaskets are intact and undamaged
5	Carefully re-insert the new bag filters against the gaskets inside the unit

Procedure, panel filter

Do as follows to replace the panel filter:

Step	Action
1	Pull out the filter frame
2	Replace the panel filter
3	Clean the frame and the rails into which the filter is mounted
4	Carefully re-insert the filter frame

Recommended end pressure loss

The table indicates the recommended end pressure loss to which references have been made in this section:

Type	Value
F3	150
F5	250
F6	250
F7	250
F9	350

How to service the heating coil

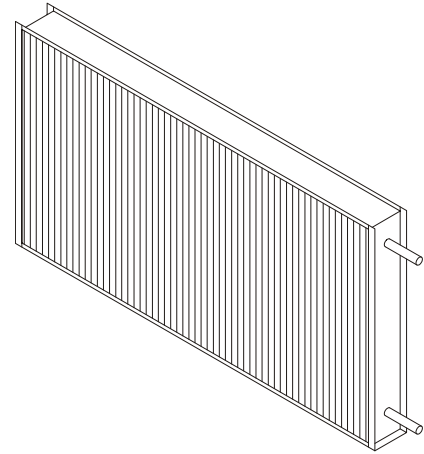
Intervals Once annually.

Before start The following must be available:

- Compressed air or a vacuum cleaner
- A soft brush

Warning! Do not forget to disconnect all current to the unit and the unit parts before service.
Take care not to damage the slats of the coils.
Do not touch the hot coils.

Illustration The heating coil:



Procedure Do as follows to service the heating coils:

Step	Action
1	Check the coils for dust or dirt. If necessary, clean the alu slats by a soft brush or a vacuum cleaner. Alternatively you may blow compressed air through the coil against the normal air direction
2	Straighten any bent slats using appropriate tools
3	Check that the clip-on sensors are properly fixed
4	Air the coil circuits through the exhaust valves of the pipe system (air in the pipe system may reduce the capacity)

How to service the cooling coil

Interval Cooling coils are serviced once annually.

Before start The following should be available before start:

- High-pressure cleaner with atomizer or compressed air

Warning! Do not forget to disconnect all current to the unit and the unit parts before service. Take care not to damage the slats of the coils during cleaning.

Illustration A cooling coil:



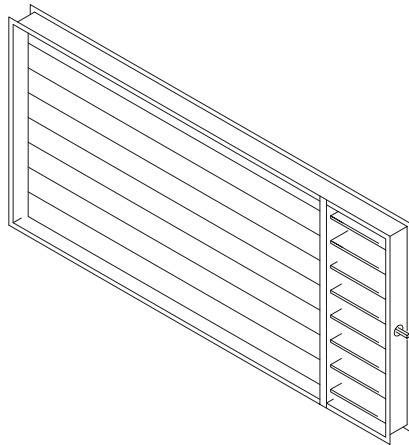
Procedure Do as follows to service the cooling coils:

Step	Action
1	Carefully clean the coils using a high-pressure cleaner with atomizer or compressed air
2	Deflate the coil circuits through the air escape valve of the tubing system (air in the tubing system may reduce the capacity)
3	Clean the condensate tray under the cooling coil as well as the drain and the drain trap connected to it
4	Check and clean the condensate remover that may be fitted

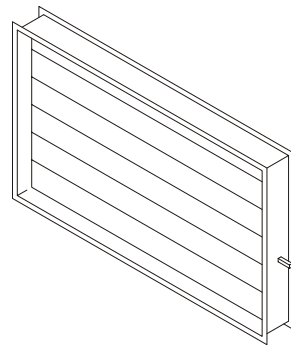
How to service dampers

Introduction	There are different kinds of dampers, but they are serviced in the same way.
Intervals	Once annually.
Before start	No special tools are needed.
Warning!	Do not forget to disconnect all current to the unit and the unit parts before service!
Exception from service	The bearings into which the damper plates are fixed do not need lubrication.

Illustration Dampers:



Bypass damper



Louver damper

Procedure Do as follows to service the dampers:

Step	Action
1	Clean the damper louvers
2	Check that the rubber gaskets are fixed and intact
3	Check that the damper louvers can rotate when the damper motor is running and that they close/open completely
4	Check the fixing of the motor/damper shaft
5	Check that the damper setting is in accordance with the current operation mode
6	Adjust the damper motor (or the bars connected to the motor), if the damper does not close tightly

How to service the air distributor

Introduction After a while you may have to remove dust deposits from the air distributor.

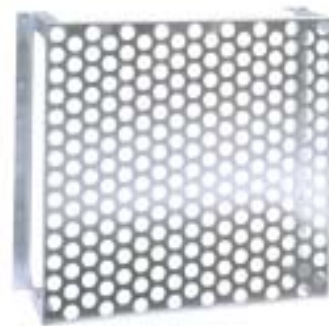
Interval The air distributor is serviced once annually.

Before start The following should be available before start:

- Brush or vacuum-cleaner

Warning! Do not forget to disconnect all current to the unit and the unit parts before service.

Illustration The air distributor:



Procedure The air distributor is serviced as described below:

Step	Action
1	Check the air distributor that is mounted at the pressure side of the fan for dust and remove any deposits. Use a brush or a vacuum-cleaner

Spare parts

Serial number

When you contact Dantherm Air Handling A/S about spare parts, please inform us of the serial number of the unit for which they should be used. This will help us identify the correct part.

The serial number is indicated on the name plate of the unit.

Contact information

Contact the After Sales Support Department at Dantherm Air Handling A/S:

Tove I. Kristensen +45 9614 4762
Spare Part Manager tik@dantherm.com

Or contact Dantherm Air Handling A/S's desk at the company number and you will be put through to the relevant contact person:

Tel: +45 9614 3700
Fax: +45 9614 3800

Service agreement

Introduction

The unit includes mechanical and electrical parts and the unit is often placed in a rough environment where the components are exposed to different climate conditions. Therefore the unit will need preventative maintenance on a regular basis.

Hotline

The After Sales Support Department of Dantherm Air Handling A/S is ready to help you in case of a problem.

To be able to offer quick and efficient help, please have the following information ready when contacting Dantherm Air Handling A/S:

- Name
- Phone no.
- Site/location (unit)
- Company
- Email
- Serial no/order no.
- Country
- Type (unit)
- Description of the problem

Contact Dantherm Air Handling A/S, ask for the After Sales Support department and help will be provided as soon as possible:

Phone: +45 96 14 37 00

Fax: +45 96 14 38 00

Email: service@dantherm.com

Preventive maintenance

Dantherm Air Handling A/S offers to do the preventive maintenance on the units so that they at all times will operate according to factory standards.

Corrective and emergency repair

In case of malfunctions of the product Dantherm Air Handling A/S offers to do emergency repair on the climate units. Agreements will be made with the customer on response time and price.

Setup

Dantherm Air Handling A/S has established a network of service partners to do the preventative maintenance. The partner is trained and certified on the actual climate units. The partner will also carry an adequate number of spare parts – so that any repairs can be made during the same visit.

The agreement will be made with Dantherm Air Handling A/S – and the overall responsibility for the agreement will be Dantherm Air Handling A/S's.

Further information

For further information about a service agreement in your country or region, please contact:

Henrik Hersted
After Sales Support Manager

Dantherm Air Handling A/S

Phone: +45 9614 4767

Mobile: +45 2399 4066

Email: heh@dantherm.com

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