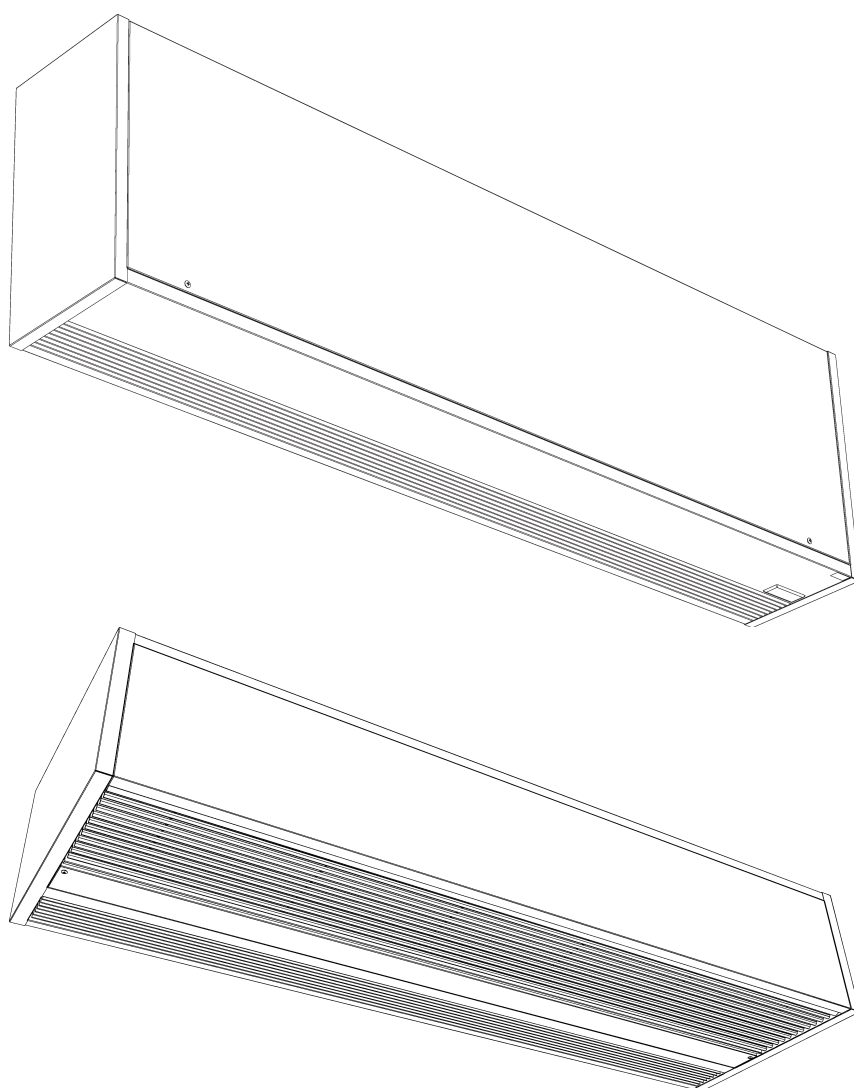


Manual

DoorFlow CS

Model DFC M-150-A-FT / DFC M-150-A-FC



Version 4.3
Original Manual

English



Biddle

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Introduction

I.1 About this manual

This manual describes the installation, operation and maintenance of the Model DoorFlow CS air curtain. The manual also provides instructions and information about servicing.

I.2 How to read this manual

I.2.1 Designations used in the manual

The following symbols are used in the manual:



Note:

Refers to an important section in the text.



Caution:

If you do not carry out the procedure or action correctly, you may cause damage to the unit.

Follow the instructions precisely.



Warning:

If you do not carry out the procedure or action correctly, you may cause physical injury and/or damage.

Follow the instructions precisely.



Danger:

Is used to designate actions that are not permitted.

Ignoring this prohibition may lead to serious damage or to accidents resulting in physical injury.

1.2.2 Symbols used on the unit and in the manual

The following symbols indicate possible risks or hazards. The same symbols will also be found on the unit.

SYMBOL	DESCRIPTION
	 You have accessed a section of the unit containing components which carry a voltage. Access restricted to qualified maintenance staff only. Caution is required.

1.2.3 Related documentation

In addition to this manual, the following documentation is also supplied with the unit:

- wiring diagram for installation and servicing.

1.3 About the unit

1.3.1 Applications

The air curtain model DoorFlow CS is designed to separate the climates between two spaces. The unit is installed above the doorway, across its full width. The model is primarily suitable for applications in cold-storage and freezer rooms.

Other versions and intended use

Upon request, we can supply versions for non-standard applications.



Warning:

Applications other than those described above are deemed to be 'usage other than for the intended purpose'. Biddle is not liable for damage or loss resulting from usage other than for the intended purpose. Usage for the intended purpose also entails observance of the instructions in this manual.

I.3.2 Type designation

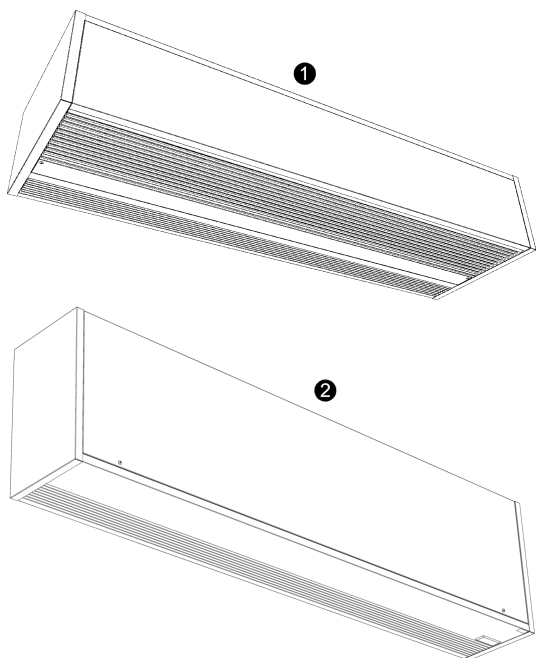
Type designations, when combined, form a unit type code:

DFC M-I50-A-FC

DFC M-I50-A-FT

Explanation of the type code

TYPE CODE ELEMENT	DESIGNATION	MEANING
product series	DFC	air curtain
capacity	M	medium
length	I50	discharge length (cm)
battery type	A	without heating (Ambient)
model	FC	free-hanging model with air inlet on the underside ①
	FT	free-hanging model with air inlet on the top ②



I.3.3 Type plate

The type plate is located on the top of the unit.

Designations on the type plate

biddle Biddle bv Merklowei 4 NL-9288 HA Kootstertille Made in the Netherlands 	Type	XX XX-XX-XX	
	Code	xxx	U xxx V xN~ xx Hz
	N°	xxxxxx/x-x xx-xx	I _{max} L1 xxx A
			I _{max} L2 -
	M	xx kg	I _{max} L3 -
	Medium	XXXX	P _{motor} xxx kW
	p _{max}	xxxx kPa	P _{heating} -

DESIGNATION	MEANING
Type	complete type code of the unit
N°	serial number, production week and year
M	weight of unit
U	power supply voltage
I _{max}	max. current
P _{motor}	max. power consumption by fans

See also:

Determining the location of the unit

Special points

I.3.4 CE declaration

The unit is compliant with the applicable CE standards. The complete CE Declaration of Conformity can be found at: www.biddle.info.

I.4 Restrictions on use

I.4.1 Field of application

- The unit may only be used indoors.
- The unit is suitable only for dry and non-dusty environments.
- The unit is not to be used in an environment where corrosive or chemically aggressive gases or vapours are present.
- The unit is suitable for ambient temperatures ranging from 0°C to 40°C.

These restrictions also apply to the control unit and/or control panel.

I.4.2 Required skills

- You must be technically qualified to install, maintain or service the unit in accordance with local legislation, regulations and standards.
- For operation in daily use, no special skills are required.
- The unit is not intended for use by children or people with an intellectual disability.



Danger:

Do NOT attempt to install, maintain or service the unit unless you are adequately qualified to do so.

I.5 Safety instructions

I.5.1 Safety in use



Warning:

Do not put any objects into the inlets and outlets.



Warning:

Do not obstruct the unit's inlets or outlets.

I.5.2 Safety issues relating to installation, maintenance and servicing



Danger:

The unit may only be opened by qualified technical staff.



Warning:

Perform the following actions before opening the unit:

1. Switch the unit off, using the control panel.
2. Wait until the fans have stopped.
3. Disconnect the mains supply (remove plug from the power socket or turn off at the isolation switch).

2 Installation



Warning:
Installation activities may only be performed by technical staff qualified for this purpose.



Warning:
Before starting installation: read the safety instructions.

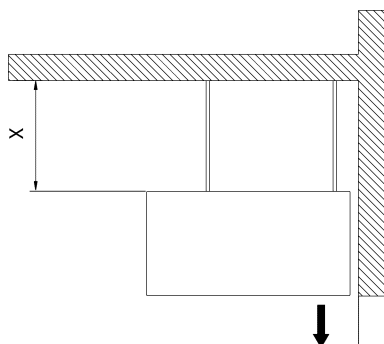
2.1 Inspection on delivery

- Check the unit and the packaging to ensure that they have been delivered in good order. Notify the driver and the supplier immediately if any shipping damage is detected.
- Ensure that all components are present. Notify supplier of any missing parts immediately.

2.2 Hanging the unit up

2.2.1 Determining the location of the unit

- Make sure that the structure from which the unit is about to be suspended can bear at least 4 times the weight of the unit. The unit's weight is indicated on its type plate.
- Note the following dimensions:
 - The unit must be at least as wide as the doorway.
 - Position the unit as near to the doorway as possible.
 - Position the unit as close to the top of the door as possible.



Warning:
The minimum installation height is 1.8 m.

- **For the DFC M-I50-A-FT unit:** The space between the unit and the ceiling (size x) must be at least 10 cm.

See also:
Type plate

2.2.2 Suspending and securing the unit

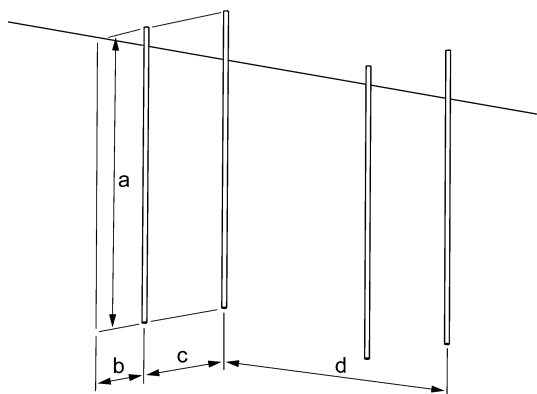
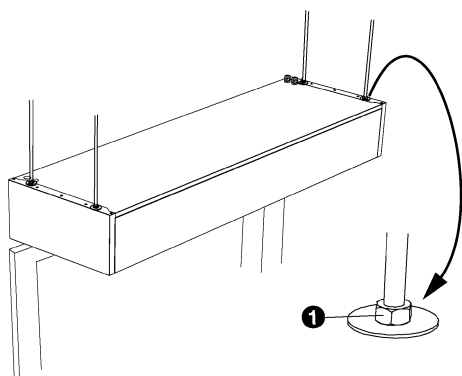
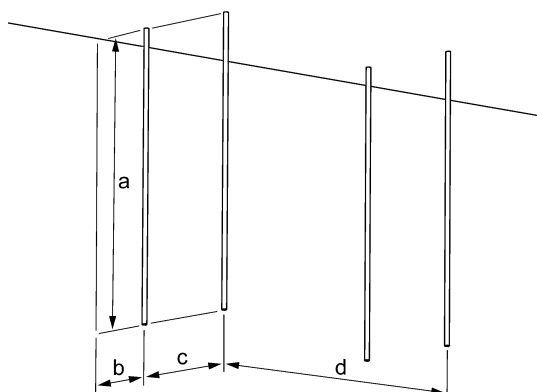
DFC M-150-A-FC

1. Position the four M8 screw threads. Make sure the threaded rods are perpendicular.

Mounting dimensions

SIZE	DFC M-150-A-FC
a	as needed
b	80 mm
c	290 mm
d	1465 mm

2. Screw a lock nut ❶ onto each threaded rod.
3. Attach the unit to the threaded rods.
4. Secure the unit by tightening the lock nuts ❶.

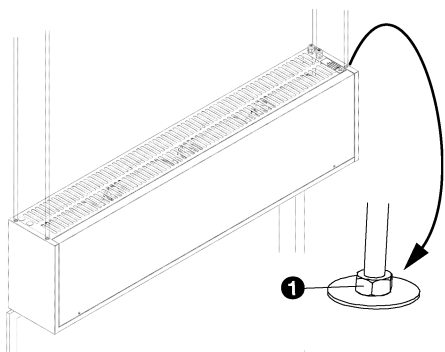


DFC M-150-A-FT

1. Position the four M8 screw threads. Make sure the threaded rods are perpendicular.

Mounting dimensions

SIZE	DFC M-150-A-FT
a	as needed
b	25 mm
c	155 mm
d	1475 mm



2. Screw a lock nut ❶ onto each threaded rod.
3. Attach the unit to the threaded rods.
4. Secure the unit by tightening the lock nuts ❶.

2.3 Connecting the unit to the mains supply

2.3.1 Special points

For all models:



Warning:
The unit must be earthed.

- Connect the unit to the mains supply using a power cable (not supplied). Maximum ratings are specified on the type plate.
- An isolation switch (not supplied) must be fitted between the unit and the mains supply. This switch must:
 - be all-pole;
 - be able to be secured;
 - have a contact separation of at least 3 mm;
 - be positioned no farther than 4 m from the connection side of the unit.

See also:

Type plate

2.3.2 Fuse ratings



Warning:
Each unit must be fused in accordance with the table below.

Fuse ratings

MAXIMUM AMPERAGE ON TYPE PLATE L1, L2 OR L3	MAXIMUM FUSE VALUE A
≤ 10A	16 A



Note:
A single fuse may only be used for multiple units if they draw a total current of less than 10A.

2.3.3 Connecting the unit



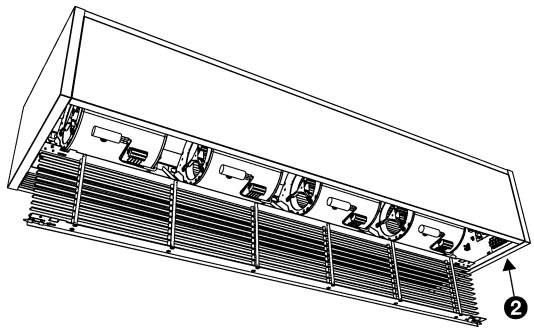
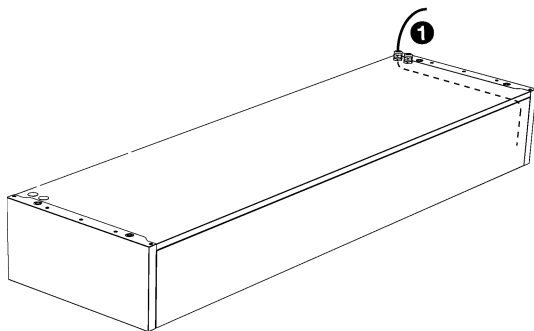
Warning:
Make sure that the mains supply group with which you are working has been turned off.

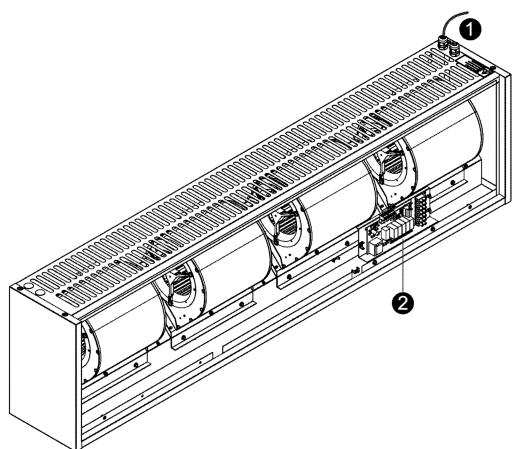
DFC M-150-A-FC

1. Fit an isolation switch between the mains supply and the unit, and connect this to the mains supply.
2. Open the unit.
3. Feed the control cable through the cable gland ❶.
4. Connect the cable to the unit's power terminal ❷ as shown in the wiring diagram.
5. Connect the mains power cable to the isolation switch.



Note:
Do not switch on the mains supply yet.



**DFC M-150-A-FT**

1. Fit an isolation switch between the mains supply and the unit, and connect this to the mains supply.
2. Open the unit.
3. Feed the control cable through the cable gland ❶.
4. Connect the cable to the unit's power terminal ❷ as shown in the wiring diagram.
5. Connect the mains power cable to the isolation switch.

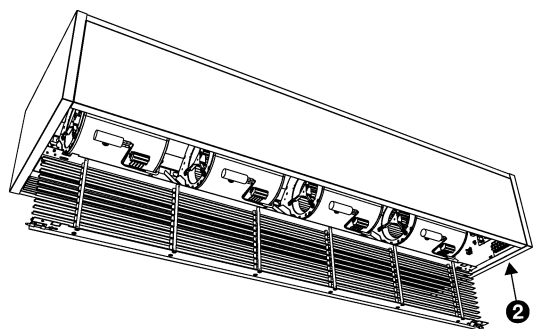
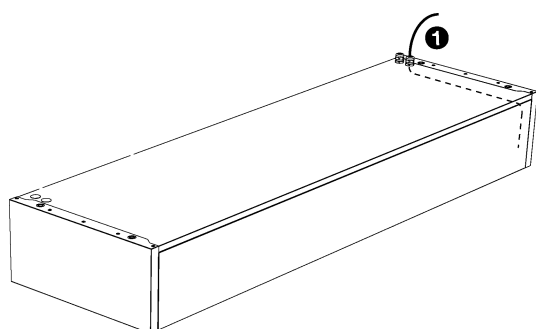
**Note:**

Do not switch on the mains supply yet.

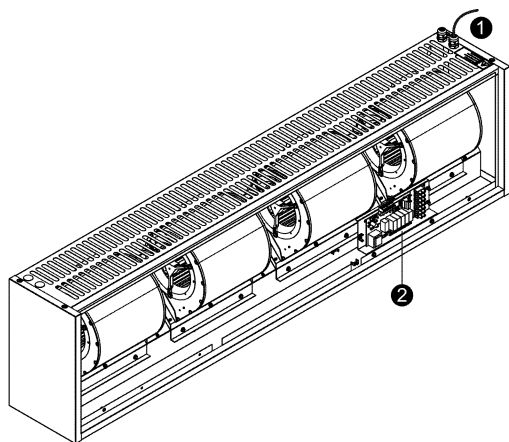
See also:

Access

2.4 Connecting the controls

DFC M-150-A-FC

1. Feed the control cable through the cable gland ❶.
2. Connect the cable to the unit's power terminal ❷ as shown in the wiring diagram.

**DFC M-150-A-FT**

1. Feed the control cable through the cable gland ❶.
2. Connect the cable to the unit's power terminal ❷ as shown in the wiring diagram.

2.5 Switching on and checking operation

For all models:

1. Close all units.
2. Check the following connections:
 - power supply;
 - control cable(s) between control panel and unit(s);
3. Switch on the mains supply on all connected units.
4. Start up the air curtain.
5. Check that air is being blown out of all units across their full width.

3

Maintenance

3.1 Cleaning the unit

You can clean the exterior of the unit with a damp cloth and a domestic cleaning agent. Do not use any solvents.



Caution:

Make sure that no water runs into the unit.

3.2 Scheduled maintenance

It is recommended to have the following inspection and maintenance activities performed annually by an installer or other technical expert.

- Check the casing, the suspension or mounting structure, and the securing of the unit.
- Check all connections of the cabling.
- Check the operation of the fans.

4 Errors



Danger:

All work on the inside of the unit may only be carried out by personnel who are technically qualified to do so.



Warning:

Before you begin: read the safety instructions.

4.1 Resolving simple problems

If you suspect a malfunction, first try to resolve the problem using the table below. You do not need to be an expert for this.



Note:

A malfunction may vary according to the type of control connected.

Solutions to simple problems

PROBLEM	PROBABLE CAUSE	SOLUTION
There is a draught.	Air curtain is turned off.	Turn the air curtain on.

4.2 Remediating errors

If you suspect an error:

1. Check whether the problem can be easily resolved.
2. Try to resolve the problem using the table below. Technical expertise is required for this.
3. If you have identified a fault, and the previous section does not provide a solution, then contact the supplier.

Fault rectification (for qualified technical staff only)

PROBLEM	POSSIBLE CAUSE	SOLUTION
The control panel works normally but the unit does not respond.	The power supply to the fans is cut off.	1. Check wiring between the control circuit board and the fans.
One fan does not work.	The fan is faulty or it is not receiving a power supply.	1. Check the wiring of the fan. 2. Replace the fan.

5 Service



Warning:

Servicing activities may only be carried out by personnel who are technically qualified to do so.



Warning:

Before you begin: read the safety instructions.

5.1 Access



Warning:

Make sure that the mains supply group with which you are working has been turned off.

DFC M-150-A-FC

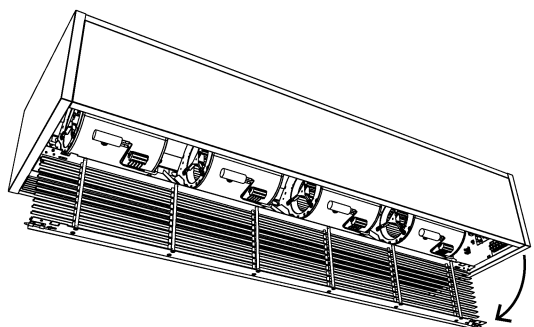
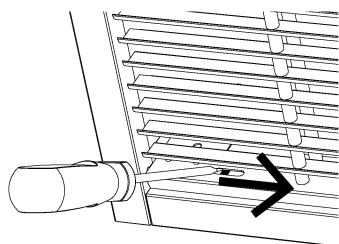
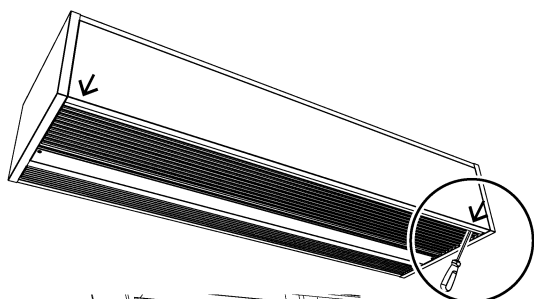
The inside of the housing features two sliding latches. These can be accessed by poking a screwdriver through the first gap in the inlet grille.

1. Slide the latch to the right.
2. Open the inlet grille to access the internal components.



Note:

Do not allow the inlet grille to fall open. Let it down gently with one hand.

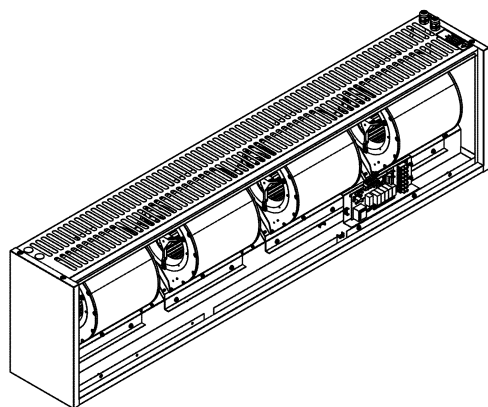
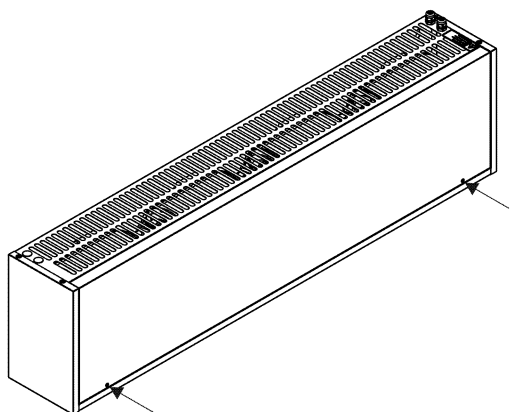


DFC M-150-A-FT

1. Remove the screws from the front panel.
2. Remove the front panel to access the internal components.

See also:

Connecting the unit



6

Dismantling

The dismantling of the installation and the handling of the coolant, oil and other components must be carried out by a qualified fitter in accordance with the relevant local and national legislation and regulations.

Pursuant to EU legislation, used electrical and electronic appliances must be collected for recycling. By ensuring that this product is disposed of in the correct manner, you are helping to prevent potential negative consequences for the environment and public health. For more information about this, please contact your supplier or the relevant government authority.

7

Addresses

If you have any comments or queries relating to this product, please do not hesitate to contact your Biddle branch.

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Liability as regards the manual

Although great care has been taken to ensure the correct and, where necessary, complete description of the relevant components, Biddle shall not be held liable for damages as a consequence of errors and/or imperfections in this manual.

Biddle reserves the right to alter the specifications as mentioned in this manual.

Should you nevertheless discover any errors or ambiguities in the manual, we shall be glad to learn that from you. It helps us to improve the documentation still further.

For more information

If you have any comments or queries relating to this product, please do not hesitate to contact Biddle. You will find the contact information for your Biddle branch in chapter [Addresses](#).

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Name and telephone number of installer: