

DF2 CS

Supermarket cold store
air curtains



Biddle

AIR CURTAINS FOR CLIMATE SEPARATION IN SUPERMARKET COLD STORES

The Biddle DF2 CS delivers superior climate separation for cold store environments such as supermarkets. The air curtain prevents the warmer air from outside the cold store or adjacent room entering or mixing with the colder air in the cold store.

By maintaining consistent temperatures within frozen and chilled storage areas, it helps preserve perishable goods longer while reducing unnecessary waste. The entrance/exit to the cold store remains clear, providing staff with unobstructed access and full visibility of the area ahead, improving safety.

Further benefits include reduced energy costs, as chillers or refrigeration units do not have to compensate for temperature fluctuations within the cold/chilled room. When air curtains are installed in cold storage rooms, temperature losses are significantly reduced.

CLIMATE CONTROL – DESIGNED AROUND YOU

The DF2 CS air curtain maintains precise temperature control while minimising moisture ingress. With over 500 successful installations across Europe, our retail clients report significant energy savings and have implemented the solution across their supermarket networks.

APPLICATIONS:

- Supermarket cold/chilled storage
- Food & beverage production facilities
- Clean rooms with refrigeration zones
- Medical storage



DF2 CS

The DF2 CS air curtain has been specifically developed to deliver outstanding climate separation between the cold store and ambient environment. It offers high levels of performance and efficiency whilst operating at low noise levels. This unit also requires low levels of maintenance once installed.

The units can be installed and mounted vertically or horizontally at the entrance/exit on the ambient side of the cold or chilled room.

PATENTED DESIGN

The air curtain is equipped with a rectifier, a technology which increases the length of the air stream by 40% (as determined by the TNO research centre). It generates a straight, convergent airstream along the opening, in order to eliminate the convection. The air curtain starts upon door opening and features a time delay.

AMBIENT DISCHARGE

This unit has been designed to emit ambient temperature air. The DF2 CS should be installed on the ambient side of the cold store or chilled room.

CONTROLS

The DF2 CS comes with an option for an optical door switch. This control constantly scans the door position and the air curtain will run whilst the door is in an open position to stop outside heat mixing, ensuring climate separation.

This control also comes with energy saving benefits as it will only run when required, reducing energy consumption and money.

This control is designed to be used on the ambient side of the cold store, installed on the same side as the DF2 CS unit.

VARIANTS

The DF2 CS can be mounted up to 2.5m. Units can be supplied for vertical or horizontal installation and are all compatible with universal fixing systems, allowing longitudinal adjustment for flush fitting. Both vertical and horizontal units should be installed on the ambient side of the cold store or chilled room.

BENEFITS:

- Reduced energy consumption
- Temperature consistency
- Reduced ingress of moisture
- Easy installation and maintenance
- Automatic operation

SPECIFICATION

CONTROL & OPERATION

The unit can be set to 3 different modes, low, medium or high fan speed. By default, the unit is set to medium fan speed.

MOTOR/FAN ASSEMBLY

The air curtain is fitted with two or more (depending on size) dual-inlet vibration free centrifugal fans. Each fan is driven by a suspended rotor motor. The fan casing and impeller are made from zinc coated steel.

The motors are manufactured according to EN 60335-1, protection class IP44 and insulation class F. They are fitted as standard with thermal contacts which break the circuit if the maximum allowable motor temperature is exceeded.



ELECTRICAL CONNECTIONS

Power supply and possibly a door switch can be connected via cable glands on the top of the unit.

CASING

The casing is made from zinc plated sheet steel and incorporates an inspection panel. Both the discharge grille, incorporating the patented rectifier, and the inlet grille are made of anodized aluminium.

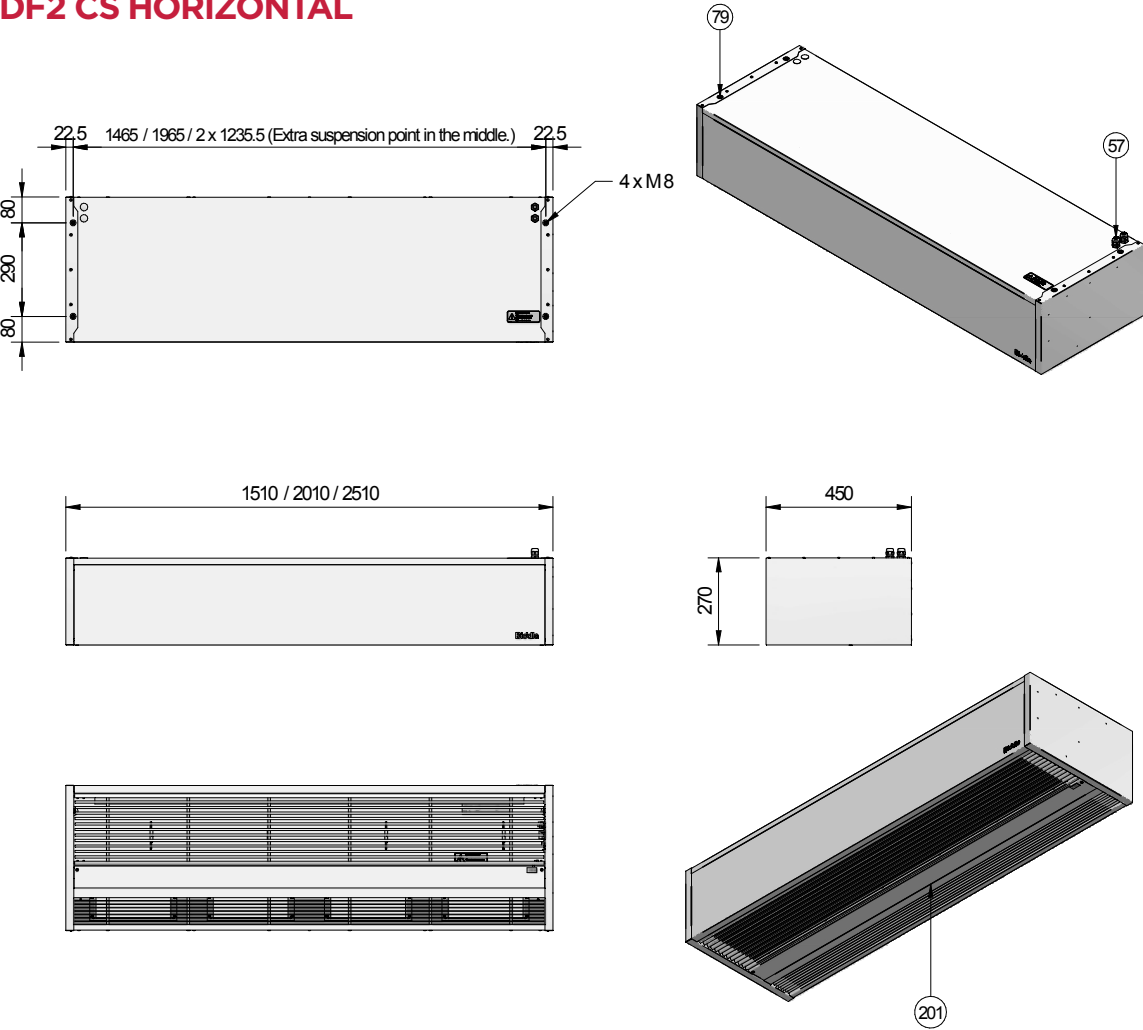
As standard the units are painted white (RAL9016). Alternative colours can be supplied if requested.

TECHNICAL DETAILS

DF2 CS HORIZONTAL

Unit length	m	1.5			2			2.5		
Door height	m	2 - 2,5			2 - 2,5			2 - 2,5		
Electrical supply	V/ph/Hz	230/1/50			230/1/50			230/1/50		
Max. current motors	A	1.55			2			2.37		
Max. input power	kW	0.33			0.43			0.52		
Max. specific fan power	W/l/s	0.36			0.46			0.55		
Weight	kg	40			53			67		
Speed		1	2	3	1	2	3	1	2	3
Air volume	m³/h	1670	2010	2400	2130	2580	3180	2500	3100	3865

DF2 CS HORIZONTAL



Glossary

57 - Electrical Supply

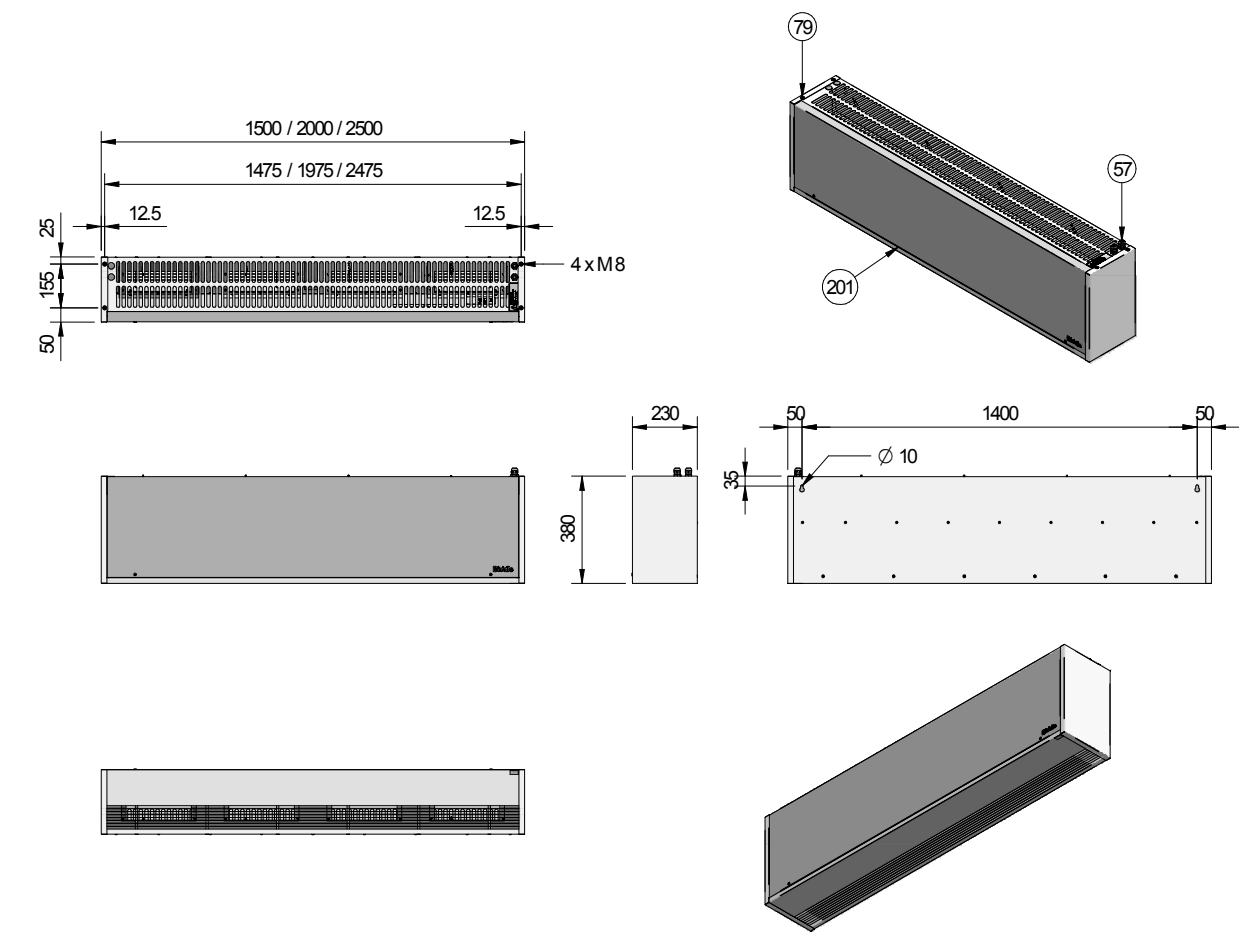
79 - Suspension

201 - Inspection Side

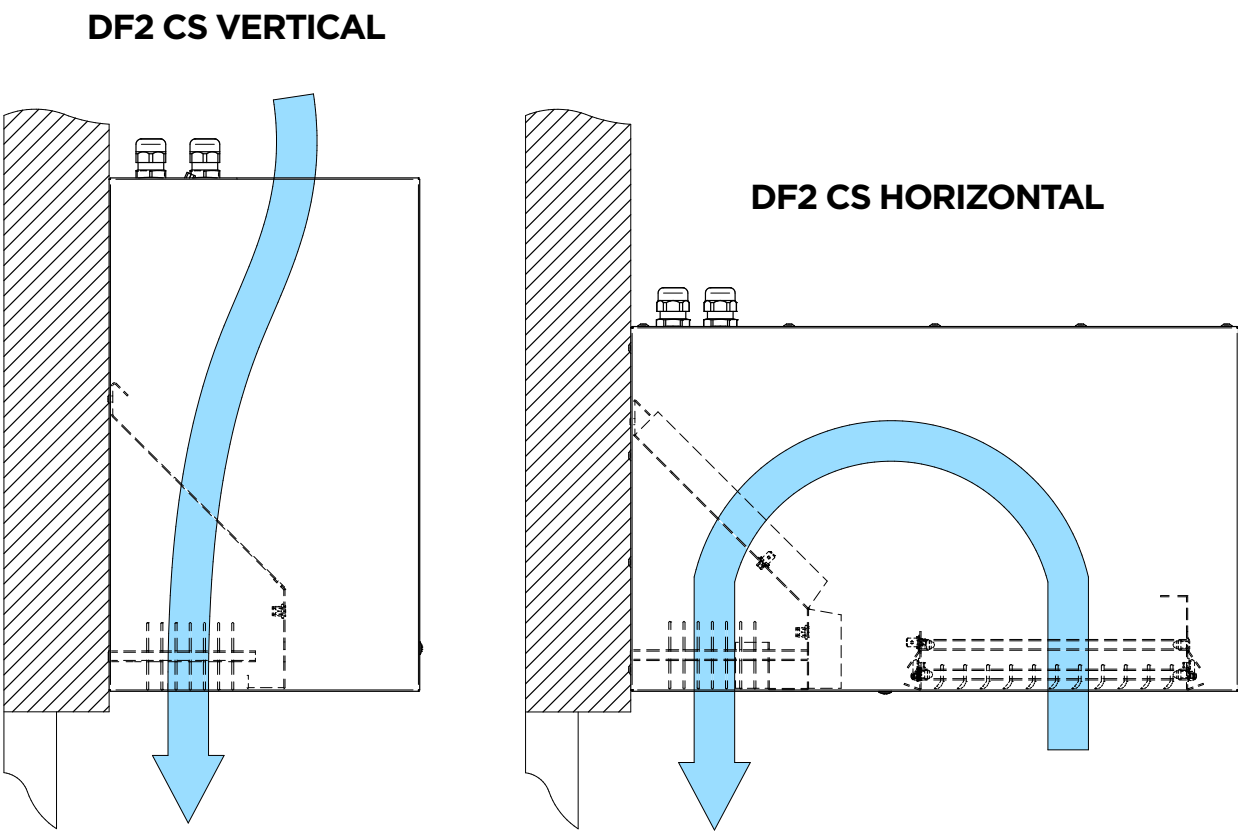
DF2 CS VERTICAL

Unit length	m	1.5			2			2.5		
Door height	m	2-2.5			2-2.5			2-2.5		
Electrical supply	V/ph/Hz	230/1/50			230/1/50			230/1/50		
Max. current motors	A	1.58			2.07			2.43		
Max. input power	kW	0.35			0.45			0.53		
Max. specific fan power	W/l/s	0.36			0.47			0.56		
Weight	kg	40			53			67		
Speed		1	2	3	1	2	3	1	2	3
Air volume	m³/h	1455	1843	2289	1858	2413	3138	2287	2948	3780

DF2 CS VERTICAL



INSTALLATION TYPES



The blue arrow on both diagrams shows the flow of air through the unit to where the discharge air exits the unit. This highlights the difference between the vertical and horizontal units to assist in selecting the right unit for your project.

Glossary

57 - Electrical Supply

79 - Suspension

201 - Inspection Side

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Every effort has been made to ensure descriptions are correct at the time of print.
Errors and omissions excepted. DOORFLOW|V2|08|2022