Data sheet

Powerstream dsblock Air curtain

Manufacturer: Masterveil AB
Swedish name: Powerstream dsblock
European name: Powerstream dsblock
Model: Powerstream dsblock

This high pressure air curtain is of the decentralized type with a custom made outblow drum with exact size to the specified length.The nozzle is based upon the POWERSTREAM ® principle and has a 100% free outblow and compleet smooth internal surface to avoid mini turbulences to create an airscreen with higher performance.
The unit is a combination of standard buildingblocks of dedicated lengths of 800mm, 1000mm and 1200mm or can be delivered in exact length. Each component(buildingblock) is composed of mirrored plates not only to suit better in a logistic environment with high logistic movement, but also to be more flexible in general setup taking in account the position of the freezerdoor.
The fan of this series has a capacity up to 7000 m^3/h and a pressure up till 1200Pa. The fan has an adjustable operating point so a vacuumpoint or zeropoint can be reached as proof of proper functioning at the set conditions.
This model of air curtain is so composed that even with a ambiant air curtain an optimal protection is obtained in all kind of situations, without using actif heating, conditionning of room or dehumidification.
The setup of the system is a 'closed-setup-type'. Meaning, the airstream is not only highly controlled on pressure side, but also controlled on intake side.
The tailormade bridge makes the unit complete and results in an upsidedown selfsupporting U-FORM. Through regulatable front and back panels on intake side pro building block, the airstream can be further optimized in flow.
You can choose between standard galvanized or stainless steel version.
For optimal humiditycontrol in freezerenvironments, the outblow drum is combined with a second outblowplenum that creates an induction airlayer that can be used as insulation layor between different levels of humidity. The outside shape of the primar outblowdrum is adapted to optimize that physical airmovementpfenomenon.
The insulation layor has an optimal airvolume to use reduced conditionning. Depending on the situation this can be actif dehumidifying , heatexchanger or just a small electrical resistance.
Building technical adaptability:
The system is designed to be delivered in following versions:
a. With or without insulation layor
b. Placed in AIRLOCK configuration (a unit with insulation placed inside the freezer and on warm side a unit without insulation)

c. Configurable conditionning line based upon actif dehumidification, heatpump or electrical resistance placed on the insulation layor inside the freeser
d. Reinforced VORTEX setup
e. Setup of bufferzone between the 2 protection layors
f. Additional conditionning of the bufferzone between the 2 protection layors.
g. double outblow with regulated outblowmouth (DS BLOCK)
h. double outblow with regulated outblowmouth in combination wit active dehumidification (DS BLOCK)
Energy saving options:
a) The system is designed to recuperate the dry air inside the freezer
b) The low volume of the insulationlayor represents a hugh energy saving possibility compared with further existing technologies.
c) very low turbulences so higher effeciency
Application-oriented adaptability:
Through it’s modular design, it is easy to extend your system with additional components like :
• Heating Line
• Intake plenum
• High automatisation and monitoring
• Dehumidification with low volume
At the customer's request, we can give additional info about the different possibilities. Please contact your Certified Partner Masterveil.

Technical dataPowerstream dsblock:

Dimensions DxH: DRAWINGmm
Drumlength: Custom made
Diameter ducting: 315 (2)/250 (2)mm
Voltage:400V
Current:5.8A
Power: 3.3kW
Volume (WP): 6000m³/h
Volume (MAX volume /minimum Pa): m³/h
Pressure (max.): 1200Pa
Sound: 74db(A)
Environment temperature: 44 /-25°C
Heating: EL./Dry
Number of fans: 1
Type of fan: Single inlet radial
IP: 44
Motor protection: Int
Design: industrial
Color: galvaRAL

steering: see separate file

drawing: see separate cad-file