Robust air curtain for large industrial doors

AGI is a robust air curtain intended for vertical or horizontal installation in large doorways such as logistic centres, loading bays and warehouses. With its powerful fans and high enclosure classification it is specially suitable for industrial environments. Its recommended installation height is 6 m. The recommended installation width of AGI6000 is 8 m with air curtains on both sides of the opening.

For doors in industrial environments

AGI has a stable and simple design. It is available in four different lengths of up to 3 metres, which makes it easy to create a continuous air curtain for large doors. In vertical installation two units can be put on top of each other.

Great energy savings

In many premises doors remain open for a significant part of the day, this results in huge losses of expensively heated or cooled air, especially when the temperature difference between outdoor and indoor air is great. With correctly installed air curtains great energy savings can be obtained.

High performance

Frico air curtains are developed and manufactured in Sweden. The air curtains are tested in one of the most modern and advanced air and sound laboratories in Europe which means that we can guarantee a high performance product.
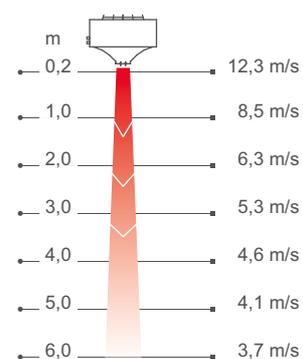

AGI6000

Available in 2 versions:

✿ Ambient (without heat)

💧 Water heating

Air velocity profile

m		m/s
0,2		12,3 m/s
1,0		8,5 m/s
2,0		6,3 m/s
3,0		5,3 m/s
4,0		4,6 m/s
5,0		4,1 m/s
6,0		3,7 m/s

Measurements according to ISO 27327-1. Average values for products in the series.

Design and specifications are subject to change without notice.

Technical specifications

Voltage motor: 400V3~

Horizontal mounting - Recommended installation height 6 m

❄ Ambient, no heat - AGIH6000 A (IP54)

Item number	Type	Output	Airflow	Sound power*[1]	Sound pressure*[2]	Amperage motor	Length	Weight
		[kW]	[m³/h]	[dB(A)]	[dB(A)]	[A]	[mm]	[kg]
11448	AGIH6012A	0	6600	85	69	2,0	1200	51
11449	AGIH6018A	0	9600	87	71	2,8	1800	75
11450	AGIH6024A	0	12600	88	72	3,7	2400	97
11451	AGIH6030A	0	15600	89	73	4,7	3000	120

💧 Water heat - AGIH6000 WL, coil for low water temperature (≤80 °C) (IP54)

Item number	Type	Output*[4]	Airflow	Δt*[3,4]	Water volume	Sound power*[1]	Sound pressure*[2]	Amperage motor	Length	Weight
		[kW]	[m³/h]	[°C]	[l]	[dB(A)]	[dB(A)]	[A]	[mm]	[kg]
11440	AGIH6012WL	33	6600	15	6,6	85	69	2,0	1200	72
11441	AGIH6018WL	46	9600	14	10,1	87	71	2,8	1800	112
11442	AGIH6024WL	61	12600	14	14,0	88	72	3,7	2400	150
11443	AGIH6030WL	77	15600	14	17,6	89	73	4,7	3000	185

💧 Water heat - AGIH6000 WH, coil for high temperature water (≥80 °C) (IP54)

Item number	Type	Output*[5]	Airflow	Δt*[3,5]	Water volume	Sound power*[1]	Sound pressure*[2]	Amperage motor	Length	Weight
		[kW]	[m³/h]	[°C]	[l]	[dB(A)]	[dB(A)]	[A]	[mm]	[kg]
11444	AGIH6012WH	39	6600	17	4,6	85	69	2,0	1200	65
11445	AGIH6018WH	58	9600	18	7,0	87	71	2,8	1800	98
11446	AGIH6024WH	78	12600	18	9,5	88	72	3,7	2400	128
11447	AGIH6030WH	97	15600	18	12,0	89	73	4,7	3000	158

Vertical mounting - Recommended installation width 8 m

❄ Ambient, no heat - AGIV6000 A (IP54)

Item number	Type	Output	Airflow	Sound power*[1]	Sound pressure*[2]	Amperage motor	Length	Weight
		[kW]	[m³/h]	[dB(A)]	[dB(A)]	[A]	[mm]	[kg]
11428	AGIV6012A	0	6600	85	69	2,0	1250	56
11429	AGIV6018A	0	9600	87	71	2,8	1850	80
11430	AGIV6024A	0	12600	88	72	3,7	2450	102
11431	AGIV6030A	0	15600	89	73	4,7	3050	125

💧 Water heat - AGIV6000 WL, coil for low water temperature (≤80 °C) (IP54)

Item number	Type	Output*[4]	Airflow	Δt*[3,4]	Water volume	Sound power*[1]	Sound pressure*[2]	Amperage motor	Length	Weight
		[kW]	[m³/h]	[°C]	[l]	[dB(A)]	[dB(A)]	[A]	[mm]	[kg]
11432	AGIV6012WH	33	6600	15	6,6	85	69	2,0	1250	77
11434	AGIV6018WH	46	9600	14	10,1	87	71	2,8	1850	119
11436	AGIV6024WH	61	12600	14	14,0	88	72	3,7	2450	157
11438	AGIV6030WH	77	15600	14	17,6	89	73	4,7	3050	192

💧 Water heat - AGIV6000 WH, coil for high temperature water (≥80 °C) (IP54)

Item number	Type	Output*[5]	Airflow	Δt*[3,5]	Water volume	Sound power*[1]	Sound pressure*[2]	Amperage motor	Length	Weight
		[kW]	[m³/h]	[°C]	[l]	[dB(A)]	[dB(A)]	[A]	[mm]	[kg]
11433	AGIV6012WL	39	6600	17	4,6	85	69	2,0	1250	70
11435	AGIV6018WL	58	9600	18	7,0	87	71	2,8	1850	103
11437	AGIV6024WL	78	12600	18	9,5	88	72	3,7	2450	133
11439	AGIV6030WL	97	15600	18	12,0	89	73	4,7	3050	163

*[1]) Sound power (L_{WA}) measurements according to ISO 27327-2: 2014, Installation type E.
*[2]) Sound pressure (L_{pA}). Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m².
*[3]) Δt = temperature rise of passing air at maximum heat output and highest airflow.
*[4]) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.
*[5]) Applicable at water temperature 80/60 °C, air temperature, in +18 °C.
Approved for 380V/3ph/60Hz. Product performance for 380V/3ph/60Hz will differ from stated data.
Manufactured in Sweden with a corrosion proof housing made of hot zinc-plate and powder coated steel panels. Colour: grey, RAL9006.

CE

AGI6000

Mounting
The recommended installation height of AGI6000 is 6 m. The air curtain is installed horizontally with the supply air grille facing downwards as close to the door as possible. The unit is suspended from the ceiling by threaded rods. For the protection of wider doorways, several units can be mounted in series alongside each other.
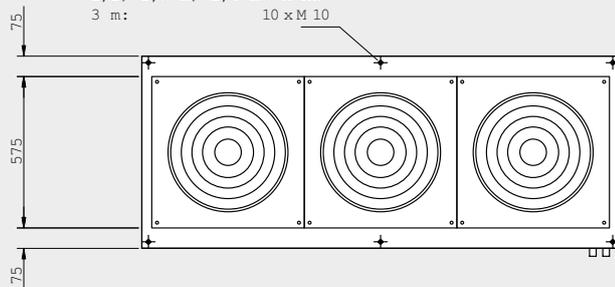
Connection
Control (400V3~) is connected to the terminal block in the junction box. The water coil is connected via connections with dimensions as given in the table (see diagram) on the side of the unit. Water heated units must always be supplemented with a valve kit, see Valves and Accessories.

	L [mm]
AGI6012	1200
AGI6018	1800
AGI6024	2400
AGI6030	3000
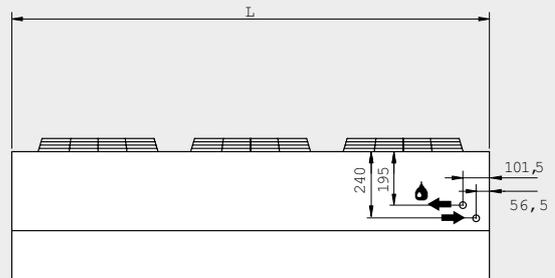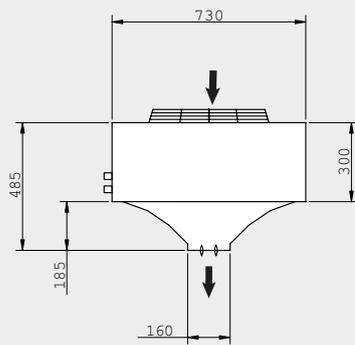
Connection dimensions, inside thread

AGI6012	DN25 (1")
AGI6018	DN25 (1")
AGI6024	DN25 (1")
AGI6030	DN32 (1 1/4")

For wiring diagrams and other technical information, please see the manual and www.frico.net.

Recommended installation height varies depending on the relevant premises. See www.frico.net for further information.

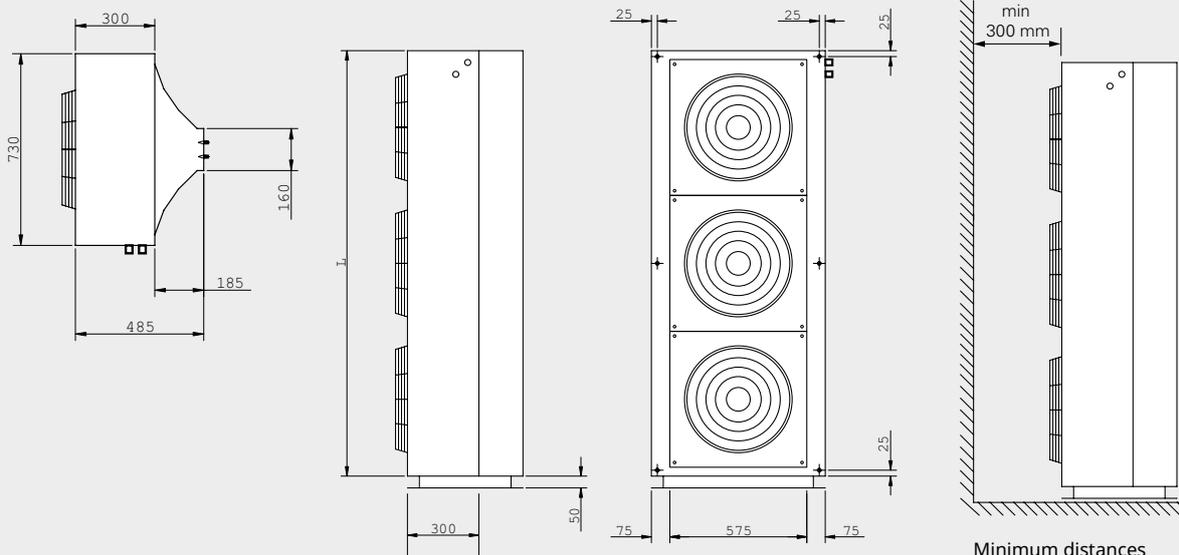# AGI6000

Vertical mounting

Mounting

The recommended installation width of AGI6000 is 8 m with air curtains on both sides of the opening. The air curtain is mounted vertically as close as possible to the door. For the best effect air curtains should be placed on both sides of the opening.

The unit can be turned and positioned on either side of the door. Two units can be mounted directly on top of each other.

The air curtain is mounted on a floor frame which is included. The frame is attached horizontally to the floor using fasteners appropriate for the surface. The air curtain must always be secured at the top.

Connection

Control (400V3~) is connected to the terminal block in the junction box. The water coil is connected via connections with dimensions as given in the table (see diagram) on the side of the unit. Water heated units must always be supplemented with a valve kit, see Valves and Accessories.

Minimum distances

	L [mm]
AGI6012	1200
AGI6018	1800
AGI6024	2400
AGI6030	3000

Connection dimensions, inside thread

AGI6012	DN25 (1")
AGI6018	DN25 (1")
AGI6024	DN25 (1")
AGI6030	DN32 (1 1/4")

For wiring diagrams and other technical information, please see the manual and www.frico.net.

Recommended installation width varies depending on the relevant premises. See www.frico.net for further information.

AGI6000

✿ Unit without heating

Level 1
Airflow is set manually. The position limit switch regulates the airflow on/off.
Control kit:
- - RTRD, 5-step fan speed control.
- - AGB304, position limit switch.

💧 Unit with water heating

Level 1
Airflow is set manually. The position limit switch regulates the airflow on/off. Room thermostat controls the heat output via actuator/valve on/off.
Control kit:
- - RTRD, 5-step fan speed control.
- - AGB304, position limit switch.
- - T10S, room thermostat IP30.

Note! A valve set VRS25 (option: TVVS25 with SD20) should be added for a complete control kit.

💧 Unit with water heating

Level 2
Airflow and heat output are controlled automatically based on the opening of the door and the room temperature. When the door is open the fan runs at high speed, when the door closes the fan will continue to run at high speed for the desired time (2s–10 min.) set on MDC. When the door is closed the fan runs at low speed if there is a need for heating, if not the fan is switched off.

The room thermostat controls the heat output on/off.

E.g. the thermostat is set on 23 °C and the difference between the steps 4 °C. The thermostat will activate below 19 °C when the door is closed. When the door opens, the thermostat will activate below 23 °C and normally the heat is switched on.

Control kit:
- - RTRDU, 5-step fan speed control, high/low speed.
- MDC, magnetic door contact with a time relay.
- RTI2, electronic 2-step thermostat.

Note! A valve set VRS25 (option: TVVS25 with SD20) should be added for a complete control kit.

Accessories - Control options

RTRD, 5-step fan speed control
With RTRD the air velocity is adjusted in 5 steps for optimum efficiency. The air velocity is set to accommodate different external conditions.

T10S, electronic thermostat
Processor controlled thermostat with concealed and visible dials. Setting range +5 – +30 °C. Closing contact for heating or cooling. Connection voltage: 230 V. Max. breaking current: 10 A. IP30.

RTI2, electronic 2-step thermostats
Processor controlled 2-step thermostats for room heating /cooling. Available with concealed or visible knob. Adjustable temperature difference between the steps (1–10 degrees). Save reduction via external connection timer (1–10 degrees). External sensor (RTS01) available as an accessory. High protection class (IP44).

MDC, magnetic door contact with time relay
Starts the air curtain or increases from low to high speed when the door is opened. When the door is closed, the fan continues to run for the preset time (2 s–10 min). This prevents the fan from starting/stopping continuously and is especially suitable for doors that are frequently opened. Three alternating volt-free contacts 10 A, 230 V~ activated when the contacts make. A MDCDC is included in MDC. IP44.

MDCDC, magnetic door contact
Indicates door status. Extra MDCDC are used when several doors are connected to a MDC. IP44.

AGB304, position limit switch
Starts the air curtain or activates a fan speed control when the door is opened. When the door closes, AGB304 stops the air curtain or changes fan speed through a fan speed control. Alternating contact 4 A, 230 V~. IP67.

Item number	Type	Description	Consists of
32594	**RTRD3**	3 A, IP54	1
32399	**RTRD5.2**	5,2 A, IP54	1
10068	**RTRD7**	7 A, IP21	1
10065	**RTRD14**	14 A, IP21	1
10071	**RTRDU7**	7 A, IP21, high/low speed	1
24727	**T10S**	IP30	1
10231	**RTI2**	IP44	1
11600	**MDC**	IP44	1
11095	**MDCDC**	IP44	1
10016	**AGB304**	IP44	1

Accessories - mounting

GP1010, threaded bar
Threaded bar for mounting in ceilings. Length 1 m. M10. Six are required for 1.2, 1.8 and 2.4 metre units and 3 metre units need ten.

Item number	Type	Used for	Consists of
27423	**GP1010**	AGIV6012/18/24/30	1

Water control

VRS20/25, valve kit
3-way control valve with on/off actuator, adjustment valve, shut off valve and bypass. DN15/20/25. 230V.

The valve kit consists of the following:
• AV20/25, stop valve
• JVF20/25, adjustment valve
• TRVS20/25, on/off 3-way control valve
• BPV10, by-pass valve
• SD20, actuator on/off 230V~

The stop valve (AV20/25) consists of a ball valve which is either open or closed. It is used to turn the water flow off and on. The water flow can be fine-tuned manually with the adjustment valve and can also be completely turned off. The water flow may be read off the valve. The kv value for JVF20 is 3,5 and for JVF25 it is 5,5.
   If the 3-way valve (TRVS20/25) is closed, the flow through the by-pass valve (BPV10) is low to ensure presence of warm water in the heating coil. This leads to instant heat supply when needed and some degree of frost protection. The actuator (SD20) works on/off.
   The valve kit is available with two different valve dimensions: VRS20 - DN20 (3/4") and VRS25 - DN25 (1"). The by-pass valve dimension is DN10 (3/8"). To regulate VRS20/25, a suitable thermostat has to be added.

TVVS20/25, 2-way control valve
TVVS20: maximum close-off pressure 150 kPa (1,5 bar), kvs 2,6, DN20 (3/4").
TVVS25: maximum close-off pressure 70 kPa (0,7 bar), kvs 4,5, DN25 (1").
Pressure class PN16.

SD20, actuator on/off 230V~
SD20 regulates the heat supply. Works on/off. A 5 second closing of the valve prevents sudden pressure changes in the pipe system.

Item number	Type	DN	Flow range l/s
24733	**VRS20**	DN20	0,011 - 0,01
24734	**VRS25**	DN25	0,0013 - 0,13
24729	**TVVS20**	DN20	-
24730	**TVVS25**	DN25	-
10073	**SD20**	-	-

AGI6000