Air Handling Units

Geniox Core
Simplify your choice

geniox

systemair

geniox

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Get the energy-efficient performance of Geniox with a short build length and fast delivery.

The flexible and compact Geniox Core makes it easy to fit the unit into small spaces. Components such as dampers and heating or cooling coils can be installed externally, in the duct where there is room, keeping the unit itself compact.

Geniox Core is easy to select, install, and maintain. Choose with or without the Systemair Access control system.

Easy selection.
Fast delivery!

Geniox Core characteristics

Geniox Core is part of the Geniox family, based on Systemair's renowned technology and over 40 years of experience with air handling units. Easy to select, install, and maintain.

Geniox Core is a modular standard unit available in 7 sizes with airflows ranging from 750–17,500 m³/h (0.2–4.9 m³/s).

Compact and flexible
Geniox Core has a small footprint. We have made the unit as short as possible and combined it with external dampers, and external heating and cooling coils to make it fit in small spaces.

Pre-configured
You can select Geniox Core in SystemairCAD where you will find a number of pre-configured solutions to make it quick and easy to select the air handling unit that suits your project best.

With or without Systemair Access Control System
Geniox Core can be delivered with or without control systems. The control system is preprogrammed with Systemair Access automation, and with the user-friendly NaviPad control panel. You get dynamic flow diagrams that allow you to adjust settings with just a few clicks.

Easy installation
When you receive a Geniox Core, everything has been tested in the factory. It will be delivered in two or three sections which can be joined together quickly and easily. Internal wiring between sections can be connected quickly. Connect your chosen dampers and heating or cooling coils with bolts and screw clamps. Start-up and commissioning is easy with the control system preprogrammed. Make your adjustments and you are ready to go.

Sections
For indoor installation, Geniox Core will always be divided in two sections for rotary heat exchanger, and in three sections for counter flow heat exchanger or with a heat pump.

Knock-down-ready

Geniox Core is available as a knock-down-ready version, meaning the unit is prepared for disassembly and reassembly. Suitable for situations where the unit needs to be transported through narrow spaces, such as doorways.

Watch our instructional videos on the Geniox Core in the knock-down-ready version.

Geniox Core features

7 sizes with airflows:
750-17.500 m³/h (0,2-4,9 m³/s)

Panel filter
Coarse 65% (G4) or ePM10 60% (M5) as prefilter.

Bag filter with large filter area
Outdoor air: ePM1 60% (F7).
Extract: ePM10 60% (M5).
Also available: Coarse 65% (G4), ePM2.5 50% (M6), CITY-FLO ePM1 60% (F7 City-Flo), ePM1 70% (F8) and ePM1 85% (F9).

Dampers comply with tightness class 4 C according to EN1751
The dampers have counter rotation, aerodynamically shaped damper blades made of aluminum, which ensures a low pressure loss when open. Duct mounted for indoor installation and mounted in the air handling unit for outdoor installation.

High-performance heat exchanger with rotor
In all types, condensation, hybrid, or sorption, and an efficiency up to 87%. Counter flow heat exchanger with an efficiency up to 90% with normal or sectional defrosting.

**Geniox Core with or without control systems**
With the NaviPad control panel. The controller (CU27-C) is integrated into the supply air section. The unit can also be delivered without control systems.

Integrated reversible heat pump
The integrated heat pump system is built into one section. The system consists of a reversible heat pump and a rotary heat exchanger, which allows for both heating and cooling (R410A refrigerant).
Two heat pump variants handle virtually all climatic conditions. **Geniox HP DF**-versions provide a constant air temperature year-round with impressively high heat recovery and energy efficiency. **Geniox HP**-versions offer efficient cooling and high cooling capacity.
Capacity regulation between 5–100%.
Temperature max 25 °C and min 15 °C.
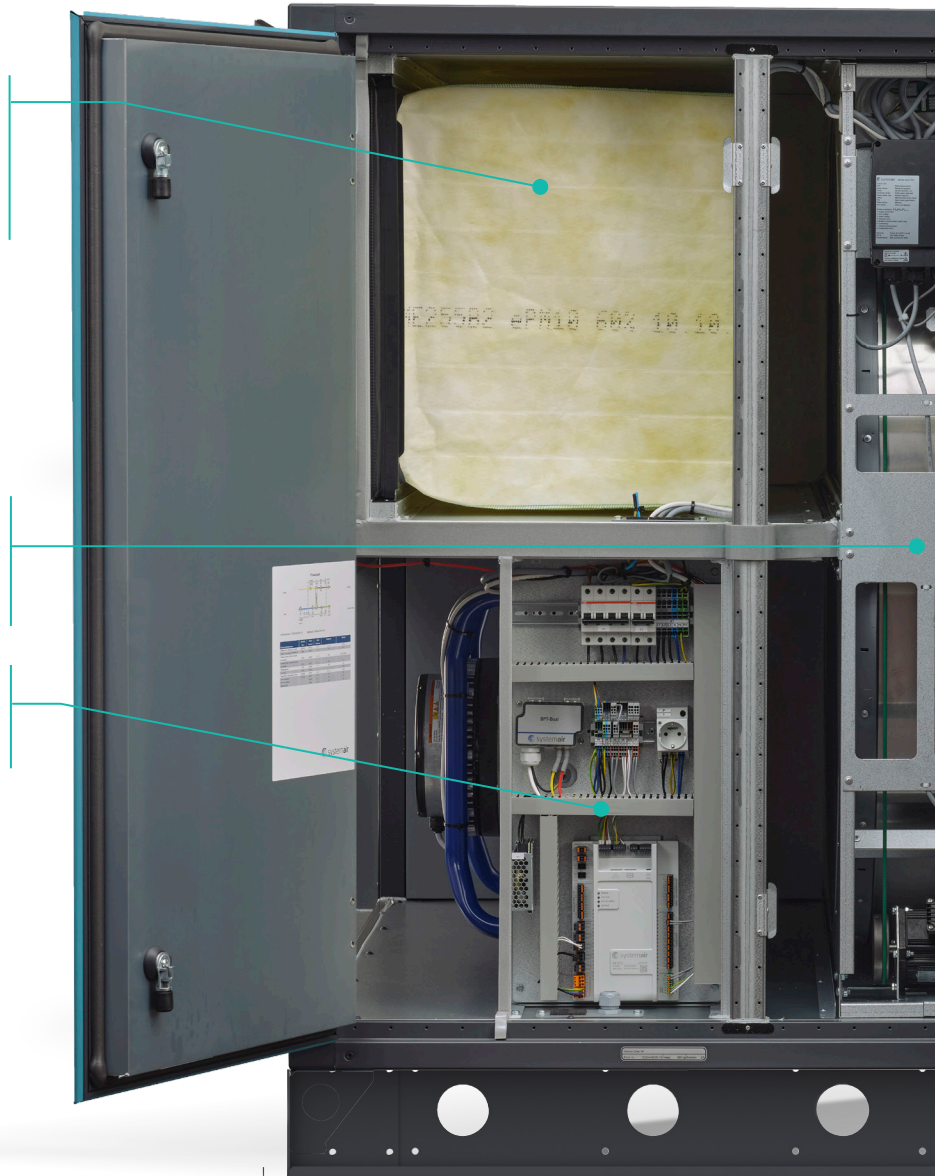
High-performance plug fans with EC motors IE5, made from recyclable composite material, with high efficiency, excellent regulation properties and low sound power level.

Coils
Can be delivered as heating coil for water or electric heating, cooling coil for water or DX cooling, and change-over coil for water. Duct mounted for indoor installation and mounted in the air handling unit for outdoor installation.

Sound attenuators
Duct mounted for indoor installation and mounted in the air handling unit for outdoor installation.

Outdoor installation
Choose from the following roof types:
rubber sheeting roof, PVC roof, steel profile roof, flat steel roof or no roof.

Panels in ZM310
Panels designed as a sandwich construction with double plates and 60 mm mineral wool for sound and thermal insulation. Corrosion-resistant with class C5 according to EN ISO 12944-2:2000. Also available with pre-painted steel plate in black RAL 9005.

Casing properties according to EN 1886 certification
Mechanical performance is documented through official model box testing (EN 1886)
Energy efficient casing with the following model box classifications:
• Deflection class D1
• Air leakage class L1(M)*
• Filter bypass leakage F9
• Thermal insulation class T2(M)*
• Thermal bridging class(M)*
*(M) = model box

Eurovent Certification
Geniox Core air handling units are Eurovent certified. This ensures alignment between the calculated performance in the SystemairCAD configuration software and the measured performance in independent test laboratories.

EUROVENT
CERTIFIED
PERFORMANCE
AIR HANDLING UNITS
www.eurovent-certification.com

Indoor installation

Geniox Core has a small footprint without compromising energy efficiency. Dampers, heating or cooling coils, and sound attenuators are placed outside the air handling unit, which provides you with a number of flexible solutions.

These flexible solutions make it possible for you to

- place the outdoor air damper directly at the outdoor intake, which means you avoid drawing cold air through the building.
- place the heating or cooling coil where it is most beneficial to the water supply and the possibility for service.
- choose a cooling coil with higher performance. In that case, you would choose a larger face area and thus reduce the pressure loss.
- place sound attenuators to best suit the surroundings, as they often have a considerable length.
- we deliver mounting kits with bolts, screw clamps and sealing.
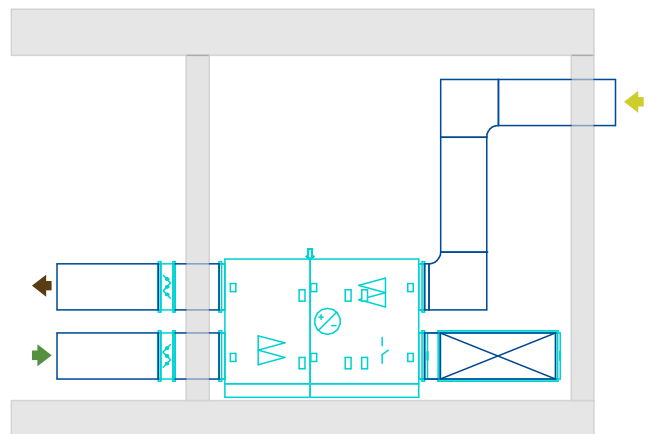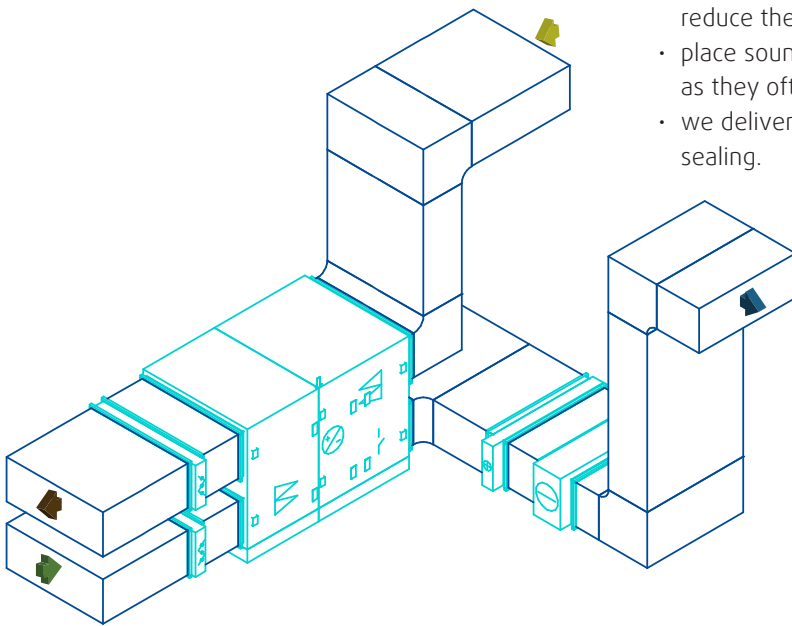
Outdoor installation

You can have all the components mounted inside the air handling unit and have everything in one place on a single base frame. This gives you a clean and simple expression on the roof. Or you can choose to have the heating and cooling coil placed inside the building.

These flexible solutions make it possible for you to
- place the heating or cooling coil inside the building, which means you do not need water supply on the roof and thus reduce the risk of frost bursts.
- service and monitor the coils inside the building.
- save costs by placing the coil where the water supply is easy to connect to.
- achieve a clean, simple and short installation on the roof without all the pipes.
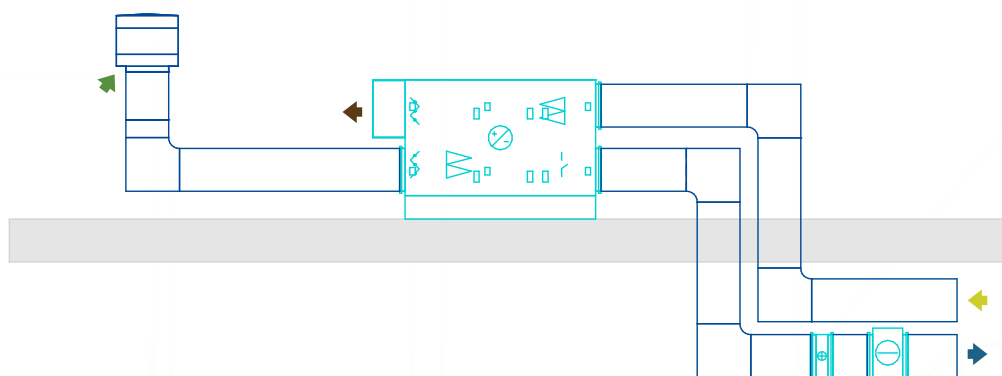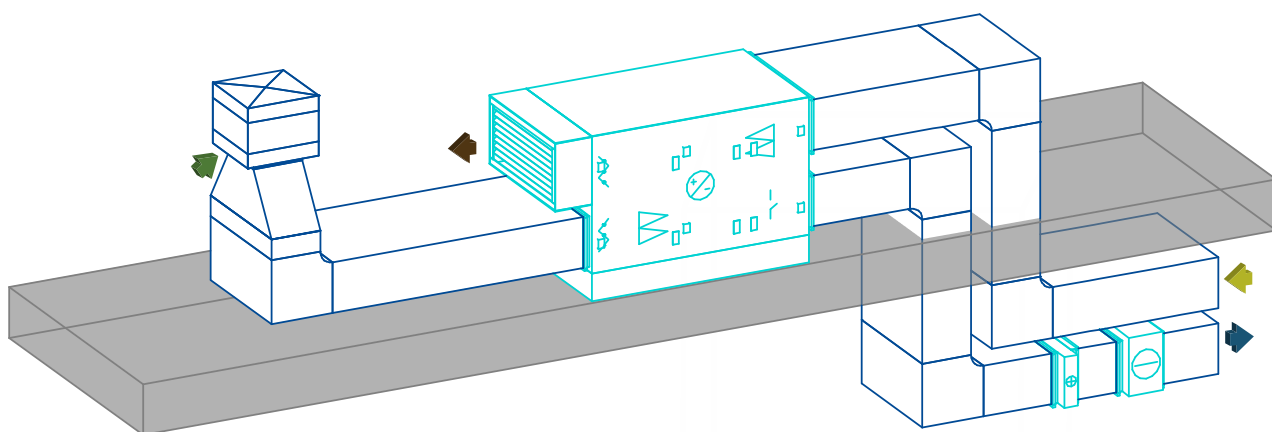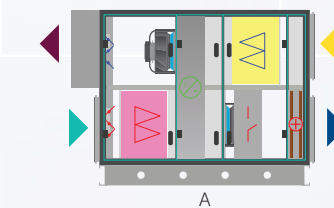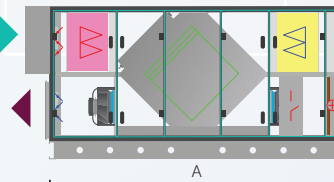
Quick selection of Geniox Core

Indoor installation

Rotary heat exchanger	Unit						
Size	10	11	12	14	16	18	20
Airflow m³/h*	4100	5300	6300	8400	11100	14500	15900
Airflow m³/s*	1,1	1,5	1,8	2,3	3,2	4,3	4,9
Width	1082	1182	1282	1482	1682	1882	2082
Height**	1082	1182	1282	1482	1682	1882	2082
Length (A)	1682	1682	1782	1782	2082	2082	2082
Length (B)	140	140	140	140	140	140	140
Length (C)	210	210	210	210	210	210	210

Counter flow heat exchanger	Unit						
Size	10	11	12	14	16	18	20
Airflow m³/h*	3700	4700	5300	7000	9000	10600	14700
Airflow m³/s*	1,0	1,4	1,6	2,1	2,6	3,1	4,1
Width	1082	1182	1282	1482	1682	1882	2082
Height**	1082	1182	1282	1482	1682	1882	2082
Length (A)	2482	2682	2782	2882	3382	3382	3582
Length (B)	140	140	140	140	140	140	140
Length (C)	210	210	210	210	210	210	210

Outdoor installation

Rotary heat exchanger	Unit						
Size	10	11	12	14	16	18	20
Airflow m³/h*	4100	5300	6300	8400	11100	14500	15900
Airflow m³/s*	1,1	1,5	1,8	2,3	3,2	4,3	4,9
Width	1082	1182	1282	1482	1682	1882	2082
Height**	1082	1182	1282	1482	1682	1882	2082
Length (A)	1982	1982	2082	2082	2282	2382	2382

Counter flow heat exchanger	Unit						
Size	10	11	12	14	16	18	20
Airflow m³/h*	3700	4700	5300	7000	9000	10600	14700
Airflow m³/s*	1,0	1,4	1,6	2,1	2,6	3,1	4,1
Width	1082	1182	1282	1482	1682	1882	2082
Height**	1082	1182	1282	1482	1682	1882	2082
Length (A)	2782	2982	3082	3182	3682	3682	3882

A = Geniox Core
B = Damper
C = Heating coil

Geniox integrated reversible heat pump

* Heat pump section
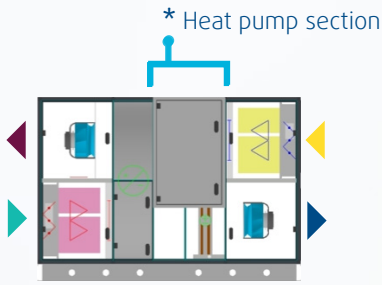
Geniox HP DF (Defrost Free)							
Size	**10**	**11**	**12**	**14**	**16**	**18**	**20**
Width	1082	1182	1282	1482	1682	1882	2082
Width*	1382	1482	1632	1832	2232	2232	2432
Height**	1200	1300	1400	1600	1800	2000	2300
Length***	2882	2882	2882	2882	3182	3182	3582
Length*	800	800	800	800	900	900	900

* Heat pump section
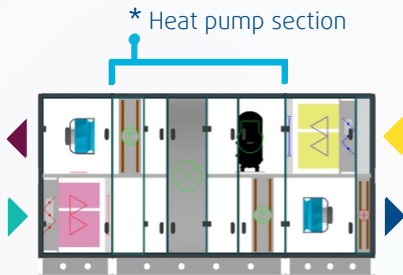
Geniox HP							
Size	**10**	**11**	**12**	**14**	**16**	**18**	**20**
Width	1082	1182	1282	1482	1682	1882	2082
Height**	1082	1182	1282	1482	1682	1882	2082
Length***	3282	3282	3282	3282	3482	3482	4082
Length*	1400	1400	1400	1400	1600	1600	2200

More information about the integrated reversible heat pump can be found in the Systemair Geniox HP brochure.

The dimensions on page 10 and 11 are for guidance only.
The exact values and combinations are calculated in SystemairCAD.

*   Heat Pump Section
**   Including base frame 118 or 218 mm
*** Use the SystemairCAD configurator to define a suitable design through many options to get the final dimensions

Design your air handling unit
Geniox offers countless combination options.
The most popular combinations are illustrated herer.

Key to symbols

Outdoor air ▶   Extract air ▶

Supply air ▶   Exhaust air ▶

Geniox Core without controls system – Flexibility for Your Project

The Geniox Core ventilation unit can now be delivered entirely without controls system. The unit is prepared with closed cable entries for easy installation.

For outdoor installations, the unit will be delivered with integrated dampers with 0-10 V actuators for optimal flexibility.

Additionally, you can choose between 2-way and 3-way valves as well as actuators for heating, cooling, and change-over coils, allowing the unit to be tailored to your specific needs. This solution provides maximum freedom to integrate the unit with your own control system.

**Easy selection.
Fast delivery!**
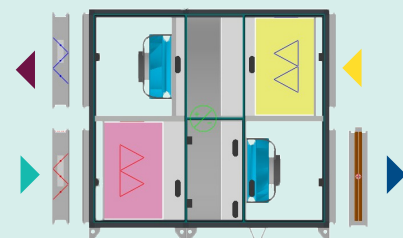
Systemair Access Control system
Simplifies connection, configuration and control

Installed in our air handling units (AHUs), Systemair Access is a user-friendly control solution which makes it easier than ever for you to get the best performance from your AHUs. Explore and utilise the full functionality using the NaviPad control panel, supplied as an option with Geniox Core AHUs, or via our Access Connect app on your smartphone or tablet.

By operating your AHUs efficiently you also gain control over your energy consumption and operating costs.

User-friendly interface (UI)
Simple menu structure and navigation with icons. The colour theme adds visibility and contrast.

Configuration wizard
Fast, simple configuration of common AHU accessories and functions.
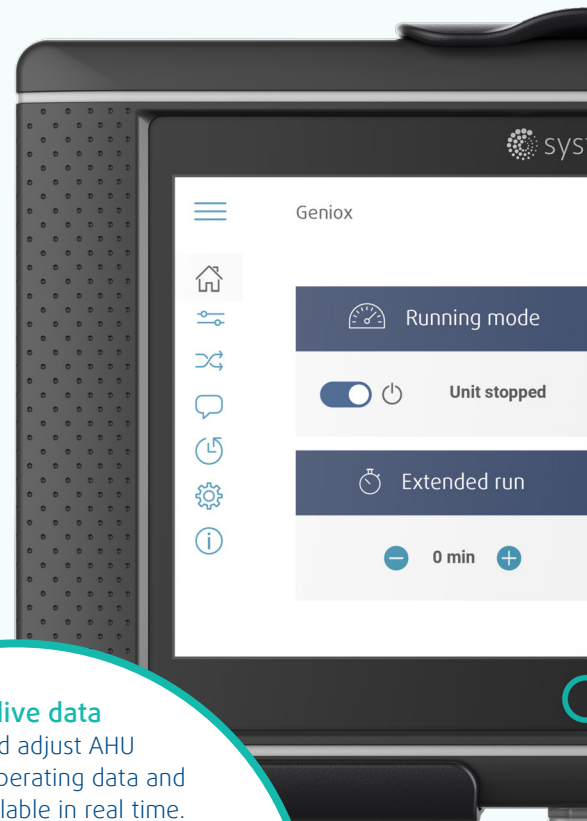
Energy insight function
Easily monitor Specific Fan Power (SFP value), energy usage for water heaters, and recovered energy.

AHU dashboard gives overview of AHUs
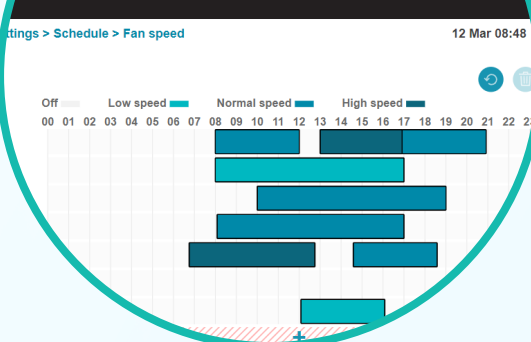Gives the operator control of all connected AHUs.

Alarm handling
Based on BACnet native standard. Allows **three** alarm actions on each AI signal.
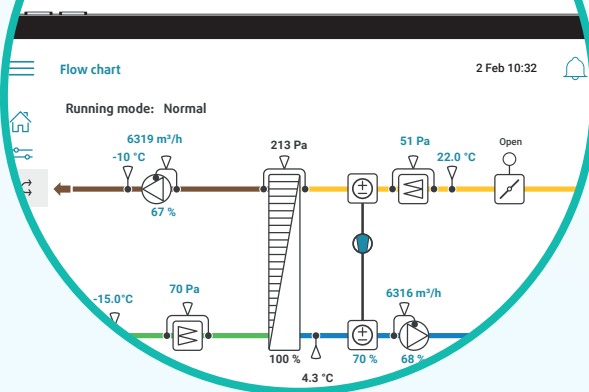
Geniox

Running mode

Unit stopped

Extended run

0 min

Time schedules
Intuitive graphical user interface with flexible scheduling.

tings > Schedule > Fan speed   12 Mar 08:48

Off   Low speed   Normal speed   High speed
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23

Useful live data
Monitor and adjust AHU performance. Operating data and flow charts available in real time.

Flow chart   2 Feb 10:32

Running mode: Normal

6319 m³/h
-10 °C
67 %
213 Pa
51 Pa
22.0 °C
Open

-15.0°C
70 Pa
100 %
70 %
4.3 °C
6316 m³/h
68 %

Wireless communication makes Access even more convenient

Install the **Access Connect app** on your device and you don't need to access the AHUs physically to interact with them. Connect directly to the control unit in the AHU, or via the building's network.

Download our Access Connect app

Download on the App Store

GET IT ON Google Play
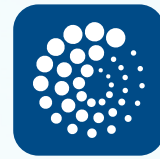
ACCESS CONNECT by Systemair

Choose the device you prefer

Robust design
Access NaviPad is developed specifically for industrial use - simple to use, yet robust and durable.

IPS display
IPS based 7" touch display with high contrast, wide viewing angles and clear visibility.

Press Home button to view AHU dashboard
LED-light indicates status of all AHUs. Enables user to control several units.

Connection cable
The NaviPad is supplied with a 3 m connection cable.

Access benefits

- Great user experience with intuitive menu navigation and configuration wizard

- Installation and commissioning truly plug and play

- Integrated support for BMS/SCADA using Modbus and BACnet communication

- Prepared for easy connection to Systemair Connect Cloud solution

- Wireless Communication

SYSTEMAIR
Access
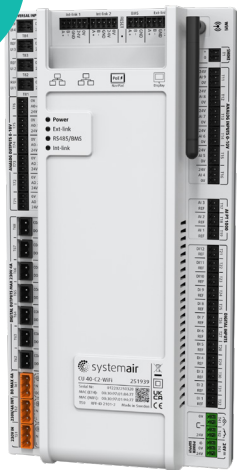
Designed by Systemair
Designed specifically for easy, quick and compact installation in Systemair air handling units.

BACnet fully integrated
BACnet native integrated in the application provides rich functionality and a user friendly graphical user interface.

Connectors for external components
All connectors for external components on the control unit are clearly marked and grouped together to reduce installation and startup time.

Systemair Connect
Gather all your air handling units in an easy-to-use **cloud** service for complete overview and accessibility.
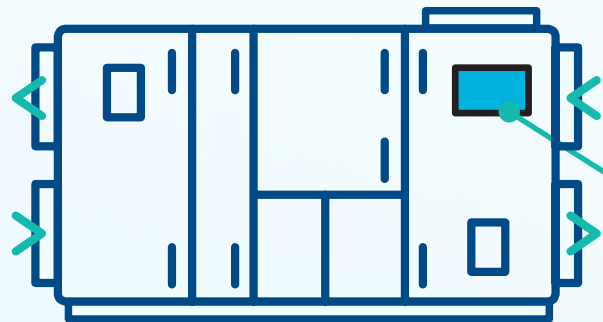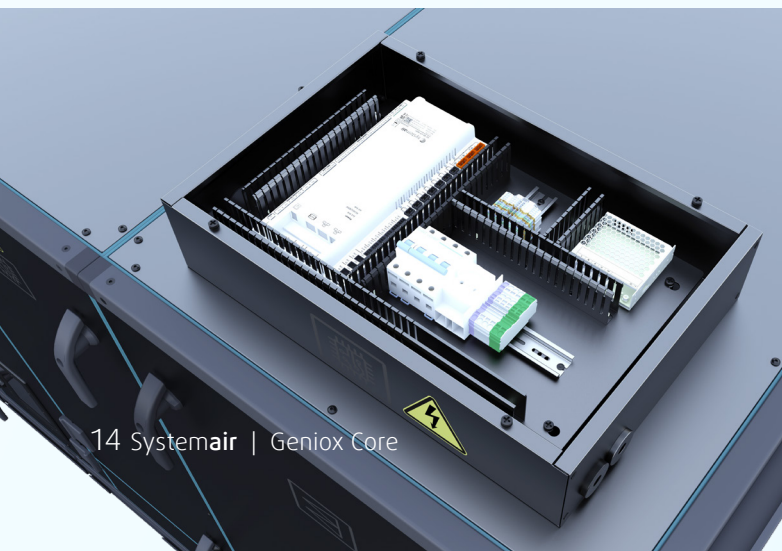
Access Application Tool
Easy upgrade, configuration and commissioning record in "one click"

The PC based Access Application Tool offers easy upgrade to latest Access software and backup and restore of configuration files.

A commissioning record is automatically generated with "one click" and the trend log function provides detailed historical data.

Dedicated BMS connection
Provides simplified connection setup to BMS/SCADA using Modbus and BACnet communication.

Bus-based field devices
There are internal and external communication links for Modbus-based field devices. Wiring to all connected devices is simplified. All needed data and diagnostics are available in real time.

Take control. Configure your
Geniox Core unit exactly the
way you want it.

Configure Geniox Core with

SystemairCAD

It's easy to configure Geniox Core using **SystemairCAD**, a design tool that ensures that each air handling unit is customised according to the actual conditions of each building.

When you configure your air handling unit, **SystemairCAD** performs a series of calculations for you. When you are finished, you can save the entire technical documentation as a pdf file on your computer.

The documentation contains e.g. technical data, drawings, calculation results, fan curves, graphics and a complete descriptive text that you can use in your specification document.

The drawing, which is drawn to scale, can be exported to other CAD or BIM programs as a DXF or DMR file. The project files can be opened directly in AutoCAD or Revit using the Systemair MagiCAD plug-in program.

You can also perform LCC calculations, print 3D.dxf files or print "live" air handling units in MagiCad or Revit.

SystemairCAD can be downloaded from the Systemair website.

Design it yourself
You can design your Geniox Core air handling unit yourself using SystemairCAD. The programme calculates and generates the necessary documentation.

Double check
SystemairCAD notifies you of any irregularities in your design and our specialised staff checks that everything is in order before producing your unique air handling unit.

Directly to the factory
Your drawings are ready to go directly to the manufacturing stage in one of Systemair's plants, reducing administrative and delivery times.

Documentation for installation and handover
Systemair supplies all documentation for control, i.e., flow chart, function descriptions, list of delivered components, external connections, and communication via BMS.

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