

NKD Custom-made

*For more than 15 years the most flexible
air handling unit with heat recovery*





**A comfortable
and healthy
indoor climate**

with the Ned Air
NKD Custom-made

Made in Holland

Ned Air is an innovative company specializing in air treatment technology. For more than 30 years we have been designing and manufacturing air handling units for numerous sectors. We do this with a team of experts at our production site in Kampen.

The Ned Air NKD Custom-made is an energy-efficient air handling unit with heat recovery, enabling you to quickly and easily create a comfortable indoor climate for any desired space.

The NKD Custom-made meets the ErP requirements, has a long long lifespan and offers many possibilities in design, cooling, heating, control technology, accessories and additional components.

If you need an air technical solution for a specific application, NKD Custom-made offers a limitless variety of air flow rates from 500 to 150,000 m³/h and sizes, all with a sleek design, extensive choices and accessories. All technical data can be found later in this brochure.





NKD Custom-made

In a nutshell

Fresh air for everyone, that is the mission of Ned Air. That is why we have been producing and supplying air for over 30 years to sectors such as education, offices, apartment building, utilities, industry, agriculture and maritime. The NKD Maatwerk is an energy-efficient air handling unit with heat recovery and has the following features:

- Possibilities Energy Investment Allowance (EIA)
- Energy efficient EC fans
- Cold bridge free and insulated
- Easy (de)mounting
- Modular layout
- ErP proof

Attractive design

Flexible and durable

All NKD Custom-made air handling units have a modular construction. Basically, all models have three main sections. A section with filters, a section with the heat exchanger and a section with fans. If you want to expand your air handling unit with, for example, a heating coil or silencers, then this is possible during the manufacturing process. This is because we can flexibly add desired sections and components to your unit.

Please refer to pages 18 and 19 for all the components that we offer. The technical documentation in this brochure tells you what the consequences on the dimensions of the cabinet.

The filter section comes standard with an F7 filter for the supply air and an M5 filter for the exhaust air. Both guarantee clean inlet and outlet air. If extra high hygiene standards are required in operating theatres, for example, special filters are available on request. The heat exchanger section contains our patented Air separation module (LSM), which transfers the heat from the outgoing air stream to the incoming air flow. The LSM comes standard with a bypass to enable summer night ventilation.

The fan section contains two or four energy-efficient EC fans, depending on the model you choose.



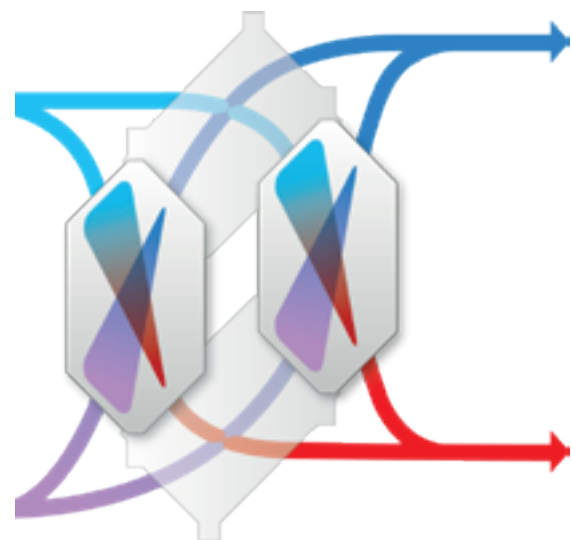
The unique Air Separation Module (ASM).

The NKD Custom-made is equipped with a unique, patented Air Separation Module (ASM). The ASM combines two counterflow plate exchangers into one unit, with the main advantage that this makes a much more compact construction of the cabinet enables. A bypass face valve is fitted as standard. With this valve summer night ventilation (free cooling) can be realized. Thus the NKD Custom-made gives you optimal control over the indoor climate, with the lowest possible energy consumption.

The main advantage of the ASM is that it saves a lot of space. The ASM is more compact than individual plate exchangers, allowing the NKD Custom-made to maintain his compact dimensions. In addition, the bypass is integrated into the ASM and no separate part and additional mounting is required.

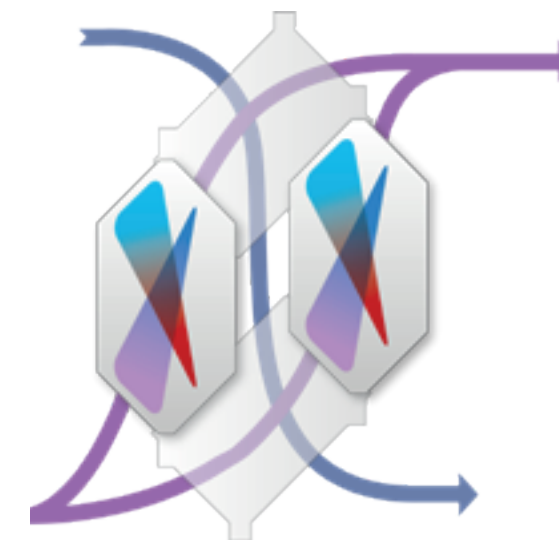
ASM with closed bypass

Air flows through the plate exchangers. Heat exchange takes place.



ASM with open bypass

The air flows through the bypass and not through the heat exchanger. No heat exchange takes place.



Robust housing

The housing of the NKD Custom-made consists of 44 mm thick sandwich panels. The panels consist of sendzimir-galvanized steel with a plastic coating and are filled with insulation material. By these sturdy panels create an airtight cabinet. The cabinet is also available at a small additional charge with stainless steel plating whereby both the inside and outside are completely flat, thus creating a hygienic cabinet design. For the shipping industry there can for example be chosen sandwich panels with stainless steel 316/304 plating. The cabinet has hinged doors with an “elevator & turn” closure.

Optional removable panels (inspection hatches) can be installed. These are equipped with handles. Removable panels are useful when the cabinet is to be placed in a location where there is insufficient space to open hinged doors. In either case, all functions are easily accessible for maintenance and control.

The panels are insulated with environmentally friendly and fire-resistant rock wool. The high thermal insulation value of the stone wool prevents condensation and energy loss. The insulation is moisture-resistant, making it impervious to microorganisms. In addition, the insulation material provides additional acoustic damping.





Solid outdoor

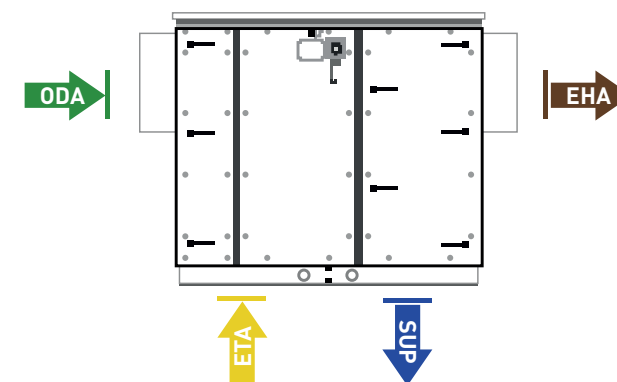
The NKD Custom-made is available in four variants, depending on whether you want an indoor or outdoor and which way of connection you prefer: bottom connection, top connection or end connection.

With the outdoor units, the units are equipped with a special roof construction that is solid and aesthetic finished. The intake opening has a drip collector cassette and the air outlet is equipped with a rain hood. Both openings have a rainproof grille. All units are delivered as standard with a fully galvanized foundation frame.

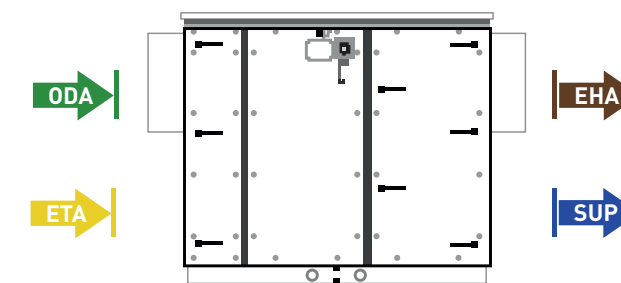
The foundation frames are equipped with lifting eyes. By means of a connection frame or a flexible sleeve the cabinet can be connected to an air duct. The flexible cuff is suitable for use at a temperature of -30 °C to +80 °C continuously.

There are two types of outdoor arrangements, which differ in the method of connection. Outdoor setups are equipped with drip traps and a roof as standard, as opposed to indoor setups. Below are schematic representations of both types of outdoor setups.

Type A
Outdoor unit with bottom connection



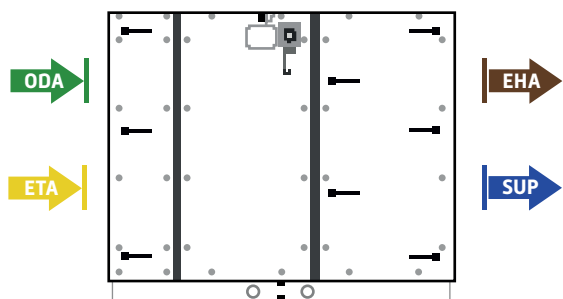
Type B
Outdoor installation with side connection



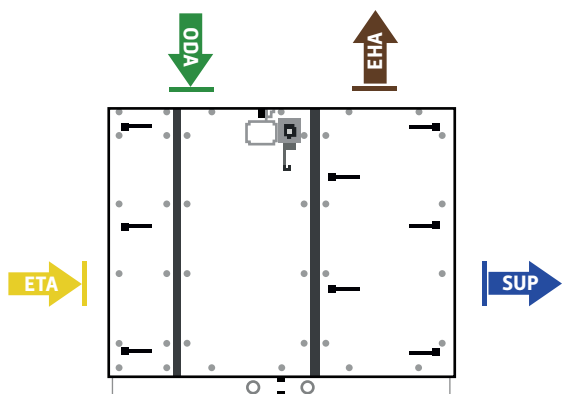
Compact indoor setup

There are two types of indoor setups, which differ in the way they are connected. Type C has side connections and type D has top and side connections. Below are the schematic representations of both types of indoor setups.

Type C
Indoor installation with side connection



Type D
Indoor installation with top and side connection



Wide choice of additional components

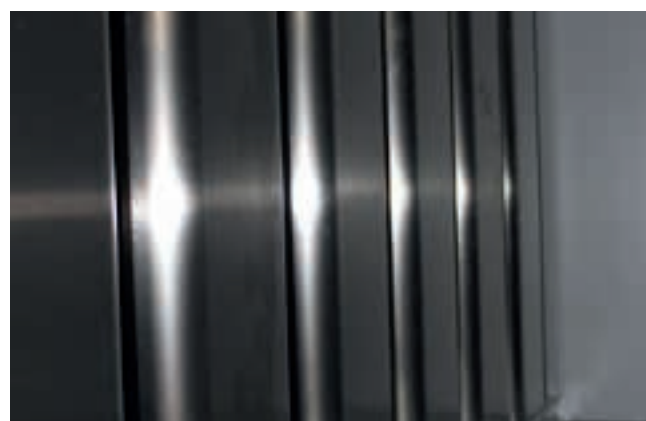
The NKD Custom-made can be equipped with numerous additional components. In this way you can configure the air handling unit to your specific needs. To give you an impression of the possibilities, you will find an overview on these pages. If you have additional requirements, please contact our sales department. We are happy to help you.



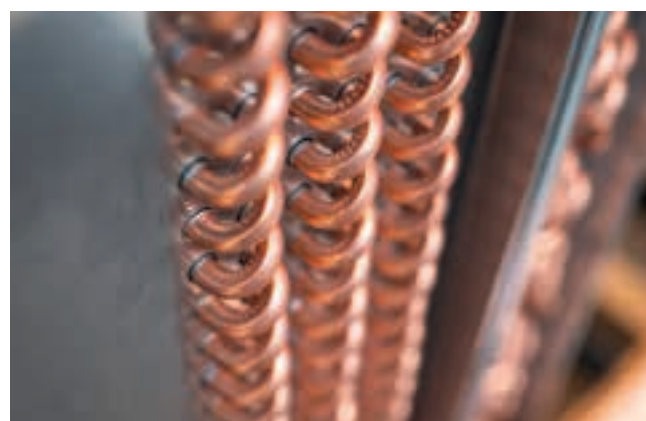
A **heater** or reheater heats the air to a desired temperature, either electrically or with water.



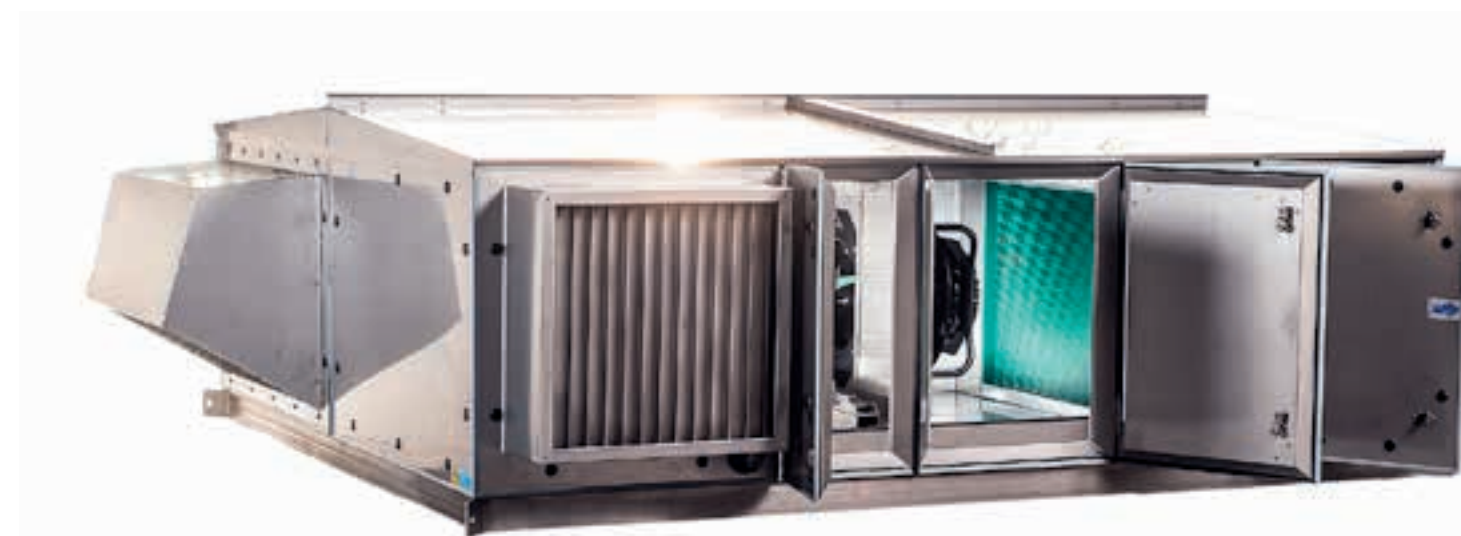
With **air valves**, air flows to and from outside can be completely shut off.



The **silencers** or **dampers** keep the amount of noise, which the air handling system produced, within the desired standards.



The **cooling coil** or **cold water coil** cools the air that flows through the air handling system.



The **DX cooling battery** has the same function as a water-based cooling battery, but uses a refrigerant as the cooling medium.

The **changeover battery** can both cool and heating. This battery can operate on water, but is also available in DX, so with a refrigerant.

Air filters keep the supply and return air clean. We can provide a wide range of air filters that are suitable for a specific application, such as the filtering fine dust.

A **plenum section** is an empty section that can act as an expansion section or recessed section for components supplied by third parties.

Accessories

In addition to the many components we can add, we can also provide a number of smaller accessories. Most of these accessories can be found on these pages. A complete overview of accessories can be found in the technical documentation of the NKD Custom-made.



A **differential pressure switch** is an effective measuring device to assess if there is differential pressure across the filter and whether filters need to be replaced.



A **balsifon** can drain condensation water from the air handling unit directly into the sewer system.

Other accessories:

- A **duct reducer** allows a rectangular connection to a round duct.
- **Web-based controller** for connecting your NKD Custom-made with the internet. You can also operate the unit on any mobile device from a remote location.
- **Vibration mats** are placed between the cabinet and the frame. This allows the cabinet to be set up.

- A **pressure gauge** measures the pressure loss across the filter. This allows you to quickly assess whether the filter is dirty.
- An **electronic Pressure Transmitter** converts the measured pressure into an electronic signal. The pressure transmitter is used for filter monitoring or control on pressure.



The **CO2-sensor** measures and monitors the CO2-content of the indoor air flowing through the cabinet.



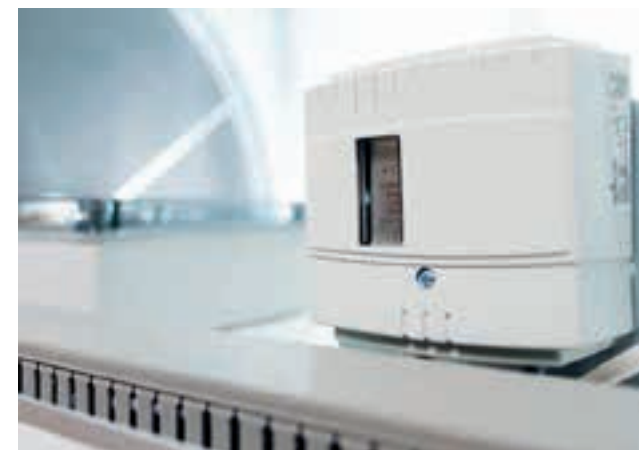
A **touchscreen** provides optimal ease of operation.



Stainless steel sheet metal housing is hygienic and sleek.



An **extra set of filters** is useful for when the current filters need replacing



Frost thermostat for measuring the battery temperature.



Customized coloring is available. We can deliver the NKD Custom-made in any desired color scheme. Treatment with a special coating is also possible.

All-electric at your fingertips

Many installers, when purchasing an air handling unit chooses a cabinet with included heat pumps. This has the following advantages over connection to existing central heating systems:

1. Step toward all-electric

While central heating systems still run on gas, the heat pumps we can supply with the NKD Custom-made can provide run on electricity. Ideal if you want to detach your property from gas.

2. Time and material savings

An air handling unit with included heat pumps no longer needs to be connected to existing central heating systems or cooling machines.

3. One point of contact during commissioning

Because the air handling units and heat pumps are delivered on the same frame only one installer is responsible for commissioning the system.

4. Sustainable

Electric heat pumps do not emit CO₂ and do not use fossil fuels.

5. Higher energy label

Application of heat pumps contributes to a higher energy label and lower energy consumption.





Sophisticated and cost-effective

If you invest in a new air handling unit, then this investment does not stop at the purchase price and installation costs. Throughout the lifetime of the cabinet, you will also face additional costs, including energy, maintenance, disposal and recycling costs. Together, these make up the Total Cost of Ownership (TCO).

In the development of the NKD Custom-made carefully considered how we could keep this TCO as as low as possible. Among other things optimized the dimensions in order to keep the air speed as low as possible and the combination of low air velocity and the large filter surface area guarantee a longer life of the filters. This keeps the maintenance costs low.

The **ASM module** built into all NKD Custom-made cabinets is built in is automatically controlled by your control technology. This creates an optimal indoor climate with the lowest possible energy consumption.

The combination of a low air velocity with large filter surface area ensures a longer life of the filters. This reduces the maintenance costs are reduced.

The **EC fans** are energy efficient and have a high efficiency. This saves energy costs and has a positive impact on the total cost of ownership.



Control Technology

Full freedom of choice

All NKD Custom made air handling units we carry out with full wiring. The cabinet is standard with a control. If you choose to apply your own measuring and control that is possible.

You only need to connect a supply cable to the main switch and connect your control to our terminal strip. Our control system (Regin) has a built-in web server which allows the NKD Custom-made unit-

24/7 location-independent readout via a web browser. This requires only a network cable (TCP/IP) to be connected to the unit. Optionally, we also supply a Ned Air remote control. This allows

you to easily control the NKD Custom-made unit from within your building. The control technical description is enclosed so that the software in your control can be tuned to your NKD Custom-made.



Klemmenstrook met aangesloten Regin-regelaar



We are Team Ned Air

Ned Air has for every technical air question a ready-made solution. We always strive to be ahead of the market. We do this with passion with our entire team of experts.

Some 4 characteristics are therefore strongly embedded in our organization: Together, Expert, Agile and Ownership. These form our basis and are therefore essential in everything we do.



Collaboration

We believe in the power of collaboration. With our customers, partners and experts we create synergy and achieve the best results. We listen to your needs and wishes and create the most effective solutions together with you. Together we build a healthy and sustainable living environment.



Expert

For more than 30 years we have a passion for air treatment. With our experience and knowledge in the field of air treatment we are professionals. We are aware of the latest developments and can therefore always provide the most sustainable solutions. We like to take on complex challenges and offer with our products reliable solutions that meet the highest standards.



Flexibility

The world around us is changing rapidly and therefore flexibility is of great importance. Because of our size and way of working, we are agile and we can quickly adapt to your wishes and specific needs.



Ownership

We take ownership of the entire process, from initial contact to after-sales service. We strive to be your reliable partner and take responsibility for the successful implementation of air technology solutions. We ensure a streamlined process and provide appropriate support

Innovative strength is in our DNA. We are always at the forefront of the air treatment industry. We provide you with high-quality solutions that contribute to a healthy and comfortable indoor climate. This is how we give substance to our mission Fresh air for everyone.

Ned Air more than 30 years sense of business

The NKD Custom-made is developed by our own technical experts with care. The complete manufacturing takes place in our production hall in Kampen. Through innovative entrepreneurship, we offer clients products we are proud of.

Interested in what Ned Air has to offer you? Take a look at <https://www.nedair.nl/en/products/nkd-custom-made/> or call/email our sales department at [+31 38 33 70 833 / verkoop@nedair.nl](mailto:verkoop@nedair.nl)



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