

# KORADOVINY

SPECIAL EDITION 2020 ■ MARKETING MATERIAL OF KORADO A.S. ■ TEXTS AND PHOTOS: KORADO INTERNAL MATERIALS AND AUTHORS ■ PRINT: HRG LITOMYŠL ■ PRICE: FREE



New KORADO plant - aerial view

## Air conditioning as well as radiators. KORADO celebrates 30 years this year!

KORADO, a.s., Česká Třebová

The history of the machinery manufacturer in Česká Třebová, which was the predecessor of KORADO, a.s., currently the largest manufacturer of radiators in the Czech Republic, and which was established after many changes in name, organisational structure, production range and owners, dates back to 1949. At that time it existed as a municipal company. After the reorganisation in 1957, it fully became a machinery company and passed into the hands of the former Regional National Committee called Kovovýroba. After a new territorial re-organisation in 1960, the company was transferred to the management of the District National Committee in Ústí nad Orlicí. From 1st January 1970, the Kovovýroba name was changed to Koventa OPMP (district enterprise for local industry) Česká Třebová.

In addition to the dominant production of ductwork, the production of air-conditioning elements, such as solenoid and exhaust headers, hoods, suction baskets, diffusers, control flaps, airtight doors, etc., was expanded in the main plant of Koventa in Česká Třebová from 1965.

In the 1960s, the production of other products also took place in Česká Třebová. One of them was, for example, the MK 1 motorcycle fairing or the DUPLEX baling presses.

From the point of view of the future development of the company, 1965 was of crucial importance. It was decided to start the production of panel radiators in that year. That product was not known in former Czechoslo-

vakia, and its production and market launch entailed considerable risk. After the necessary construction modifications and type and technological tests, the production of the first types of D panel radiators was started in 1967. The production involving extensive manual work was done with single-purpose machines manufactured locally and supplemented by machines of our own design and production. The production began in full swing in 1968. It gradually began to catch up, especially in the 1980s, with the production of air conditioning equipment existing at that time both in terms of production volume and number of employees. It was the dominant production for Koventa from the second half of the 1980s.

The first mass-produced and marketed type of panel radiators were the D radiators manufactured between 1968 and 1975. It is interesting that some of the first radiators keep serving their purpose to the full satisfaction of their users until today and are probably the best answer to any doubts about the life of steel radiators. It turns out that when using steel radiators correctly (right choice of operating conditions, appropriate composition of water, its perfect bleeding...), their service life can be more than 30 years and thus their service life matches the other elements of the heating system. Yet the surface treatment of the radiators at that time was incomparable with the surface treatment of today's RADIK radiators. It consisted only of hand-spraying of the base paint, while customers were responsible for the final appearance of the surface treatment.

In 1974, the D radiators were awarded the



“Product of Excellent Technical Level” diploma at the Pragotherm 74 exhibition. Koventa followed up on the awards obtained at previous exhibitions (e.g. being awarded diplomas and medals for the best product at the 1969, 1970 and 1973 Brno exhibitions and the medal for the best exhibition at the 1970 Brno exhibition). The company continued the tradition in the following years. Even after the establishment of KORADO, it was almost a given that its new products regularly brought awards from Pragotherm, later Aquatherm, the most prestigious domestic exhibition in the field of ventilation and heating, even after the Czech market was opened to renowned rival producers from all over Europe.

1988 was important in terms of the development of the production of radiators and especially in terms of their quality.

That year, a coating plant from the Danish company Ideal Line was put into operation. It was a fully automatic coating plant for surface treatment of radiators. The surface treatment consisted of several steps. Those included pre-treatment of the surface of the radiators by degreasing and phosphatising, application of the basic water-soluble varnish by dipping, its firing and application of the top visible layer of powder paint followed by firing. The coating plant was appealing because of its two-storey construction, which was required due to the small floor plan of the coating plant building. Putting the coating plant into operation meant that for the first time since the beginning of the production in the 1960s, radiators with a top quality final coating left Česká Třebová at that time.

The history of KORADO, s.r.o., as a manufacturer of radiators, started on 7th July 1991 when the company bought the plant of the former Koventa Česká Třebová in Česká Třebová, a former company of the local management Koventa Česká Třebová, in a public auction as part of a small-scale privatisation, and thus continuing the tradition of producing steel panel radiators.

1993 also saw the preparation of the production of a completely new design of radiators, not manufactured in the Czech Republic until then. These were the VENTIL KOMPAKT (VK) radiators.

*continued on page 2*



## Air conditioning as well as radiators. KORADO celebrates 30 years this year!

*continued from page 1*

This designation has belonged and still belongs to panel radiators with a built-in so-called valve fitting and an inserted valve or valve insert. 1994 was also one of the most important years in the history of KORADO. In that year, the company management decided on the construction of a new plant. The reason for such a decision was that, despite almost one hundred percent utilisation of the production capacity of the existing plant in three shifts, investment in modernisation and expansion of production technologies, and despite increasing the production of radiators to about 50,000 pieces per month, the company was unable to meet the demand for its products!

In December 1994, the first series of RADIK D95 VK ventil kompakt radiators was produced.

Among the most important days of 1996 for KORADO, s.r.o. were 26th April, when the construction of the New KORADO Plant began, and 30th September, when the company was turned into a joint-stock company. Trial production at the new plant started on 1st October 1997, making KORADO one of the seven leading manufacturers of radiators in Europe.

The new KORADO plant was awarded the BUILDING OF THE YEAR title on 23rd September of the following year. That award was received by the representatives of KORADO, a.s. at the FOR ARCH 98 exhibition.

In 1998, the company acquired a 98% share in a production plant in Bulgaria, and the subsidiary production company KORADO Bulgaria was established. 9 years later, the second largest investment in the company's history (more than EUR 25 million) in the 4th welding line was started. The highest revenues in history, amounting to EUR 110 million were also recorded. In 2010, a new capillary soldering technology was installed for the production of KORALUX towel rail radiators. In 2013, the portfolio was expanded with convectors thanks to the incorporation of LICON HEAT s.r.o. into the KORADO Group.

On 7th November 2017, exactly 20 years passed since the ceremonial opening of the new production hall of KORADO, a.s. in Česká Třebová. During those 20 years, more than 27 million panel radiators and 2 million towel rail radiators were manufactured there, heating their owners almost all over the world. Foreign markets to which KORADO exports its products also include countries such as Australia, South Africa, Iceland, the Faroe Islands, South American countries and, of course, the countries in Europe and Asia.

This year, KORADO a.s. celebrates 30 years since its establishment and at the same time 55 years since the establishment of the former Koventa. It only remains to wish the company many years of smooth production to come, millions of manufactured radiators and satisfied customers around the world! ■



Závod KORADO v roce 1995

# RADIK VKM8 - solution for every connection

KORADO, a.s., Česká Třebová

In addition to the heat output for the dimensions, the basic requirement for choosing a radiator is also the method of its connection and design. The individual KORADO models always allowed only one connection method (e.g. RADIK VK - bottom right, RADIK VKL - bottom left, RADIK VKM - bottom middle), which defined the particular model. However, this places certain demands not only on sellers,

but also on designers and plumbers. Due to the flexibility of deliveries, sellers must keep more stock, designers and plumbers have to decide in advance how to connect the radiator.

The universal RADIK VKM8 combines all the above-mentioned connection methods thanks to 8 connection holes and can replace the RADIK VKM and other KORADO ventil kompakt radiators incl. RADIK KLASIK and RADIK MM. As with the other ventil

kompakt radiators, there is an eight-stage control valve with continuously adjustable flow control integrated inside the radiator and on which a thermostatic head can be mounted.

RADIK VKM8 is available in VKM8, VKM8-L, VKM8-U, LINE VKM8 and PLAN VKM8 models. One radiator can be connected in up to 48 ways.

Thanks to the bottom middle connection, it is possible to retrofit 20, 21, 22 and 33 types as required without ha-

ving to change the distance of the connecting pipe from the wall. It is also not necessary to change the position of the connecting pipe in the event of flexibly changing the height or length of the radiator.

The radiators are available in several design versions. A separate front plate in PLAN (flat) or LINE (fine grooves) design can be additionally attached to the radiators with a classically profiled front plate.

PLAN and LINE versions can also be produced directly. ■



RADIK PLAN VKM8

## Convectors - the right choice for economical heating

KORADO, a.s., Česká Třebová

Nowadays, there is an increasing emphasis on energy savings for building heating in modern construction. Modern construction materials can reduce heat loss to a minimum, so the use of heat pumps or other low temperature sources is the standard option. If you decide for hot water heating with a low-temperature source, it is necessary to solve the question of choosing a suitable end radiator. In addition to classic radiators, hot water convectors are also the right choice. The great advantage of convectors is that they heat up very quickly and can efficiently transfer heat to the room. Compared to standard radia-

tors, they have a lower water volume (up to 90% smaller compared to conventional radiators), which results in lower thermal inertia of these radiators. They can also be placed on the wall using stand brackets. Thanks to sophisticated technology, convectors can also be connected to an intelligent building management system. KORADO, the Czech company, offers the entire portfolio of innovated KORAFLEX floor convectors, KORALINE bench convectors or new individual KORABASE heat exchangers. Thanks to modern manufacturing technology, it is possible to produce convectors of atypical dimensions according to the needs of individual projects. ■



KORAFLEX



# The quality of the interior environment must also be addressed in existing buildings

KORADO, a.s., Česká Třebová

We spend about 80% of our lives in buildings. This includes time spent at home as well as in office buildings or shops. Nevertheless, our home is the place where we can influence the quality of the interior environment more than anywhere else. Whoever wants to breathe fresh air and not suffer from cold at the same time must be able to balance three components contributing to the creation of a comfortable environment. In addition to temperature, air humidity, flow speed and, last but not least, CO<sub>2</sub> concentration also have an impact on our well being. For this reason, we should pay proper attention to the ventilation and not underestimate it.

The quality of indoor air in the living rooms is gradually degraded because of the building materials used, appliances, running of the house and especially the presence of people. Controlled ventilation provides a sufficient quantity of fresh air. At the same time, a healthy and comfortable environment for users is created.

The minimum required value of ventilation intensity in dwelling rooms (rooms, bedrooms, kitchens, etc.) is 0.3 h<sup>-1</sup> according to ČSN EN 15665/Z1. In order to achieve a higher quality of interior air, ČSN EN 15251 recommends adhering to a ventilation intensity of 0.5 – 0.7 h<sup>-1</sup>. This value tells us how many times in an hour we should let fresh air in a room in an amount corresponding to the total volume of the ventilated room. Apart from the fact that, in addition to pollutants, the humidity also concentrates in the air, and it may – in the long term – even cause a degradation of some building structures. The value of CO<sub>2</sub> concentration can be used as an indicator of the quality of the interior environment since its concentration in the interior air should not exceed 1,500 ppm.

Local ventilation units contain filters – dust and pollen – which clean the air. The air supplied in this way can be a suitable solution for allergy sufferers. The units also reduce humidity and thus prevent the formation of moulds which are caused by insufficient ventilation. A great advantage is the significant

soundproofing during ventilation in places where busy roads pass, which is not possible with ventilation through open windows.

No expensive wiring or demolition throughout the house. Installation is very simple; everything is done locally. The units are installed directly into the perimeter wall of the ventilated room. They remove and supply the air simultaneously while, thanks to a built-in exchanger, they are able to transfer heat back to the interior. The heat recovery efficiency of these devices ranges from 60–90%. The advantage is also the easy ventilation control, programming of time and length of ventilation time and, furthermore, signalling a filter exchange, for example. You can choose KORADO local heat recovery units from the KORASMART model line. KORASMART TUBE 2400E, the latest local ventilation unit with heat recovery equipped with a remote control, can be controlled via an application on a tablet or mobile phone and can thus be part of an intelligent home solution. ■

Concentration of the carbon dioxide CO<sub>2</sub>

CO <sub>2</sub> concentration	Unit	Impact
< 1000	[ppm]	level without discomfort
1200 ÷ 1500	[ppm]	maximum recommended level of CO <sub>2</sub> in interior environment
1000 ÷ 2000	[ppm]	symptoms of fatigue and decrease in concentration, feeling of stuffy air
ppm ... parts per million - number of monitored particles in one million of other particles		

Table of the carbon dioxide impact on a person in building



KORASMART TUBE 2400E

## Increased humidity in the flat? Defeat it once and for all

KORADO, a.s., Česká Třebová

In winter, most of us do not want to ventilate much, but it is necessary to supply ourselves and households with fresh air. We know how to make it easier.

Compared to heat recovery, ventilation units without heat recovery are a simpler and cheaper alternative how to supply the interior with fresh air.

Compared to heat recovery, ventilation units without heat recovery are a simpler and cheaper alternative how to supply the interior with fresh air.

Increased humidity in flats is nothing unusual. Not only older buildings, but also buildings that have been

thermally insulated or where windows have been replaced suffer from it. During cold days, moisture condenses on the windowpanes. Humidity creates ideal conditions for the development of moulds in the corners of rooms and behind furniture. However, nature alone cannot be blamed for everything. The regime in which its owner maintains it is primarily responsible for the increase in humidity in the house. "Ventilation is needed in every season. It is necessary to ventilate not only intermittently, but also regularly. Therefore, ventilation units are an ideal option for exchanging air in the home. When choosing one, it is necessary to focus on suitable filters, noise du-

ring operation and sound attenuation of the unit," says Martin Preclík, KORADO product specialist.

Programme your ventilation

Purchase of a programmable ventilation unit is offered as a solution to combat humidity. For example, KORAVENT 100 ensures automatic ventilation and high attenuation of external noise, even at night or when no one is in the house or flat. The advantages of the unit also include the possibility of programming the time and length of the ventilation time, as well as, for example, signalling the filter exchange. Thanks to its properties, the KORAVENT local ventilation unit is also suitable for cotta-

ges and chalets.

### Main advantages:

- Controlled fresh air supply
- Comfortable year-round ventilation
- Suitable solution for allergy sufferers
- Quiet ventilation
- acklit display (power indication, filter exchange, time program)
- Prevention of temperature fluctuations (as opposed to shock ventilation through windows)
- Individual air outlet control through side openings
- Low el. unit power consumption (normal operation max. 5W)
- Easy installation and maintenance

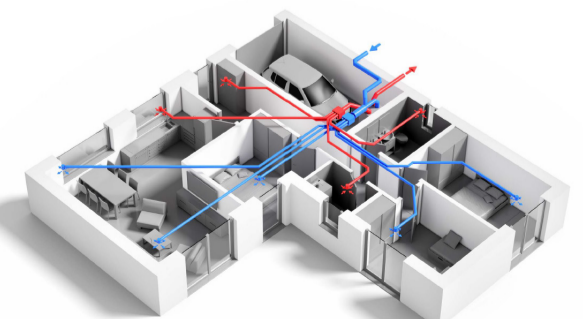
## KORADO enters the field of central heat recovery

KORADO, a.s., Česká Třebová

Since 2018, ThermWet s.r.o. has become a part of the SKORADO Group, thanks to which central heat recovery units were added to our product portfolio. These are becoming common components when building family houses nowadays, and the KORADO Group, as the largest domestic manufacturer of radiators, wants to be active in this dynamically developing area of controlled ventilation and heat recovery.

Since its establishment in 2009, ThermWet s.r.o., the Czech company, has been developing, manufacturing, designing and supplying optimal ventilation systems with heat recovery to family houses, flats and small commercial premises throughout the Czech Republic and Slovakia. Heat recovery is a common part of modern construction and is considered to be one of the basic elements reducing the energy demands of buildings. Controlled ventilation is important for maintaining a favourable indoor microclimate. It is also suitable for existing buildings where there is a problem with humidity, radon and insufficient ventilation. The envelope of buildings is often sealed up during reconstruction and thermal insulation of buildings. As a result, the building stops breathing and moisture accumulates, causing mould to form. Controlled ventilation is therefore an ideal partner for building revitalisation. ■

ThermWet®  
člen skupiny KORADO



KORAVENT







Showroom Křižíkova - Praha



Showroom Kaštanová - Brno

## New showroom of products of KORADO, the Czech brand, in Prague and Brno

KORADO, a.s., Česká Třebová

The showroom of the KORADO brand, a leading Czech manufacturer of radiators, is now part of the Centre for Housing and Design in Prague Křižíkova and the Centre for Rough Construction in Brno Kaštanová. KORADO offers a

complete solution in the field of heating with an emphasis on modern and low-energy elements and systems. In addition to end products for heating, it also offers solutions for controlled ventilation of buildings in the form of local and central heat recovery units.

The Housing and Design

Centre is a space that will make it easier to establish contacts with construction companies or architects and help you find the necessary inspiration for the implementation of your interior and exterior projects. Within this complex, KORADO offers you the opportunity to see live its best-selling products, from panel

radiators to design variations in various colours. You will find models from the RADIK, KORALUX, KORATHERM line and a cross-section of the convector range in the part dedicated to heating. ■

## Heating solutions for schools and hospitals

KORADO, a.s., Česká Třebová

Specially designed RADIK HYGIENE and RADIK CLEAN radiators can be used in all buildings with stringent hygiene requirements. And what makes them so special?

RADIK HYGIENE is adapted for installation and operation in rooms with high requirements for hygiene and cleanliness. All types have no additional area between the panels, so there is no dust deposition compared to the conventional design of radiators. Their front panel is flat, easy to wash, and the seam welds of the panels are covered with a special flat strip. The 20S type has a greater distance between the panels (radiator depth B = 102 mm) compared to the classic type 20 (B = 66 mm). The radiator has no side panels or top grill. The basic version also includes the required number of drilling brackets which allow the radiator to be fixed up to 65 mm from the wall

as standard. The radiator can therefore be easily washed from all sides, even in the inner space between the panels or behind the radiator as such. The painting is flat and the whole radiator is guaranteed for 10 years. It is therefore an ideal solution for rooms where it is necessary to maintain cleanliness, from hospital premises to children's rooms of ordinary households, for example.

As for the RADIK CLEAN model, all types are without additional panels, without grills and side covers. Compared to the HYGIENE model, the front panel is not flat, but there area standard grooves. Seam welds are not covered with a strip; however, this radiator can be ideally used in households where there is a higher requirement for cleanliness of the environment and easy maintenance, which will be appreciated, for example, by allergy sufferers. Its advantage is also a significantly lower price. ■



KORATHERM AQUAPANEL

## AQUAPANEL – new design for your bathroom

KORADO, a.s., Česká Třebová

A novelty in the KORADO portfolio is the KORATHERM AQUAPANEL design radiator. The modern and simple look of this design radiator will convince everyone that, when choosing a suitable radiator for the bathroom, it is not necessary to decide for the classic "rails" as before. The straight, geometrically precisely arranged profiles of this radiator create a luxurious and unobtrusive impression.

It is available in single-row and double-row versions, in hei-

ghts from 79 cm to 178 cm. The heat output of the single-row design ranges from 403 to 1,231 W, the double-row design includes outputs in the range of 577 to 1,807 W. These design radiators have a modern bottom middle connection, or even a bottom-down bottom connection. AQUAPANEL is now also available in the combi version.

By choosing a colour shade from the KORADO or RAL swatch, KORATHERM AQUAPANEL radiators can be adapted to the bathroom or made into a unique design element. ■



RADIK HYGIENE

## CONVECTORS

DESIGN AND EFFECTIVE HEATING



- optimal immediate heating output of the convectors
- significant energy savings for heating
- for all heat sources including heat pumps
- many variants of dimensions and colors
- floor, wall, bench design



korado.com

## Bathroom towel rails from another perspective

KORADO, a.s., Česká Třebová

Heating towel rails have become an essential part of a modern bathroom. Nowadays, there are bathroom rails of many colours and shapes on the market, so you can easily match them with the rest of the space. But it may be new for you that KORADO also offers an option of original and practical spatial mounting for all its bathroom radiators thanks to the wall brackets. Thanks to this, the heat source can suddenly become a practical partition which optically separates, for example, the toilet space. ■



KORALUX - spatial mounting