

**KNOW  
HOW  
CREATES**

dedicated  
solutions for  
rotary heat  
exchangers



**HVAC**  
CONTROLS & POWER

**FLOOR HEATING**  
HYDRONIC

**FLOOR HEATING**  
ELECTRIC

**OJ DRHX**

A DRIVES PROGRAMME DEDICATED TO ROTARY HEAT EXCHANGERS



# OJ Drives®

A product programme dedicated to ventilation solutions

OJ Drives® is our endeavor for developing and manufacturing drive solutions to ventilation systems. Our knowledge within HVAC and motor applications has allowed us to create smart and flexible drive products that can be configured to meet the specific needs of your ventilation system.

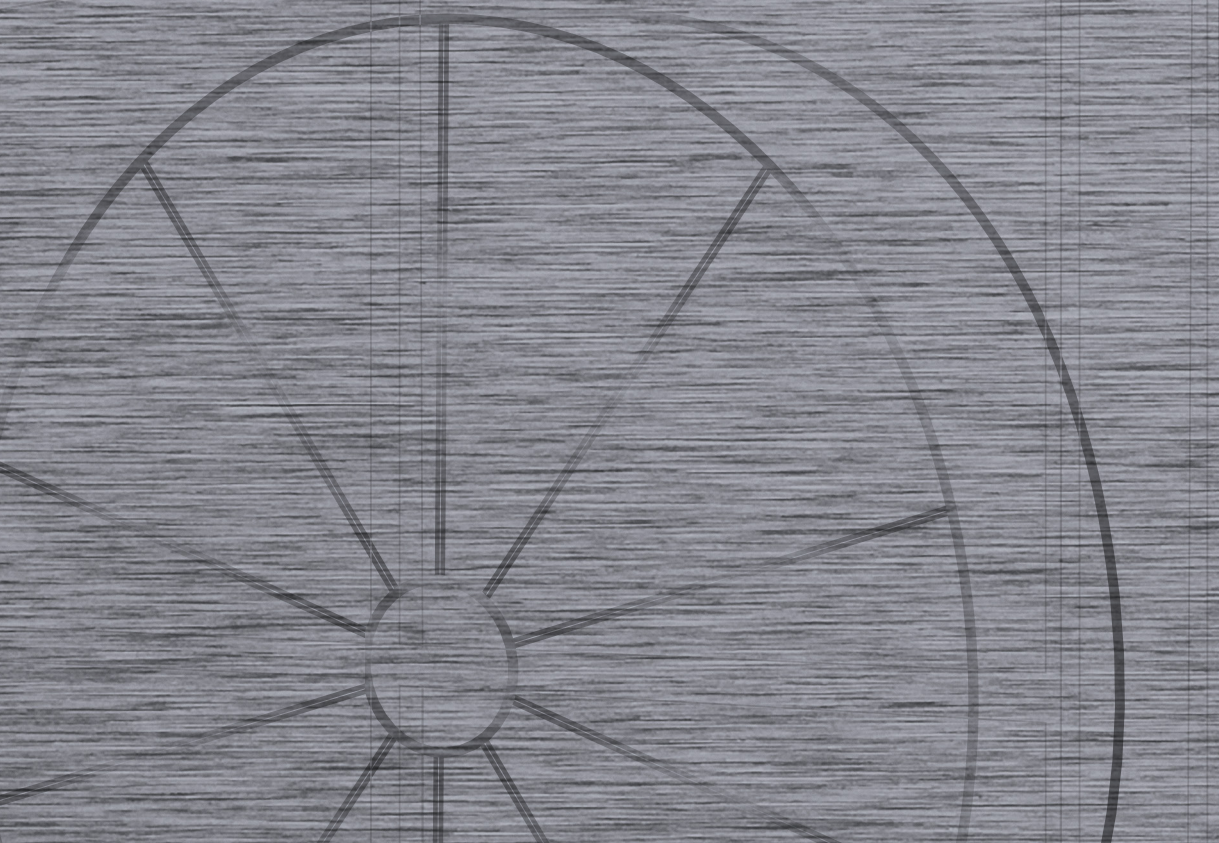
OJ Electronics has more than 50 years of experience in the HVAC business and has developed drives for the ventilation segment for more than 25 years. The combination of our high product quality and our extensive ventilation application know-how has resulted in highly dependable drives - and real innovation within the field.

With a drive from OJ Electronics, your ventilation application will work reliably for years to come.

## **The OJ Drives® signature:**

- High quality and flexible solutions
- Agile and collaborative partnership
- High service level
- Application know-how

The OJ Drives® programme contains a range of drive products for different ventilation applications, including air handling units, rooftop fans, plug fans, box fans and rotary heat exchangers.



**KNOW  
HOW  
CREATES**

**new motor  
control solution  
for rotary heat  
exchangers**

## OJ DRHX product range Technology for energy-efficient heat recovery

The OJ DRHX product range has been designed with simplicity and efficiency in mind. It employs new technology to deliver exactly the features and functionalities you need from a rotary heat exchanger drive.



### **Reliable solution**

OJ Electronics' insistence on quality combined with our extensive application know-how has resulted in a highly dependable drive and motor solution.



### **Flexible design**

These all-in-one units combine modbus and analogue technology in very compact designs that are easy to install. You can place them horizontally or vertically as you wish.



### **Energy efficiency**

The DRHX drives brings you system efficiency (drive & motor) of up to 65%. The self-cooling design eliminates the need for additional cooling such as fans, and the gear-free technology ensures perfectly accurate control throughout a wider speed range than ever.



### **Sensorless rotation monitor**

Sophisticated software monitors the rotation of the rotor, which means that no physical/optical rotor guard is required. Naturally, fewer components also means that you get easier installation. Patent pending.



### **Field oriented sensorless motor control**

Combining a high-torque stepper motor with closed-loop sensorless control gives you more accurate, energy-efficient control. The drive regulates the current to the exact level required to achieve the right speed and torque. Patent pending.



### **Wide product range**

The product range covers all requirements from the 1Nm to 14Nm range. You get modbus and analogue control, and you can choose between versions with or without 3x7-segment display.

# Field oriented sensorless motor control combined with stepper motor

Combining a high-torque stepper motor with field oriented sensorless control brings you a unique new solution – and great efficiency. The drive uses the feedback signal from the motor to ensure that the motor gets exactly the level of current required to achieve the desired speed and torque.

The closed-loop control makes it possible to detect the motor load, and a sophisticated software algorithm allows the drive to detect rotor rotation, eliminating the need for a physical rotation guard. In brief, field oriented sensorless motor control makes operation more silent, more accurate and more energy-efficient.



# The Product Range

The OJ DRHX product range covers the full range from 1Nm to 14Nm in three drive power sizes. Four different motor sizes are available to ensure optimum use of application workspace.



## Constant Speed

DRHX 55W, 1/2Nm  
DRHX 260W, 4/8Nm

- Start/Stop
- Up to 277V single phase supply
- Dimensions:  
183 x 140 x 55 mm



## Modbus Control

DRHX 55W, 1/2Nm  
DRHX 260W, 4/8Nm

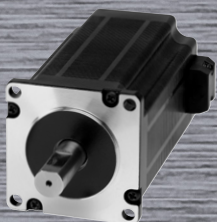
- Modbus
- Up to 277V single phase supply
- Dimensions:  
183 x 140 x 55 mm



## Modbus & Analog Control

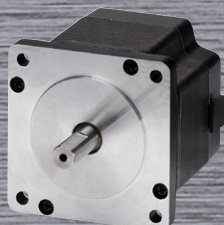
DRHX 55W, 1/2Nm  
DRHX 260W, 4/8Nm  
DRHX 790W, 14Nm

- Modbus & 0-10V control
- 3x7-segment display
- 208-277V single phase supply\*
- Dimensions:  
183 x 220 x 90 mm



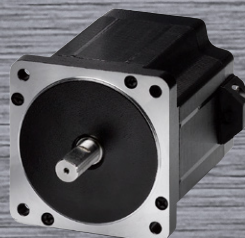
## MRHX-1Nm

- 3 x 0-200V
- Dimensions:  
56 x 56 x 97 mm



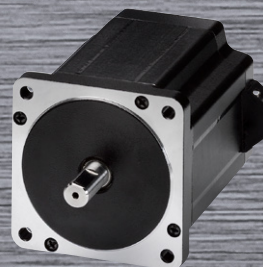
## MRHX-2Nm

- 3 x 0-200V
- Dimensions:  
85 x 85 x 67 mm



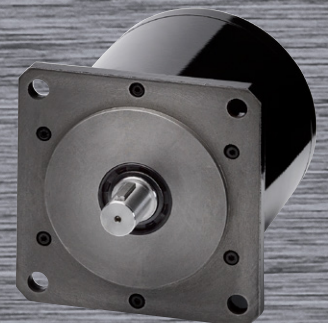
## MRHX-4Nm

- 3 x 0-200V
- Dimensions:  
85 x 85 x 97 mm



## MRHX-8Nm

- 3 x 0-200V
- Dimensions:  
85 x 85 x 156 mm



## MRHX-14Nm

- 3 x 0-220V
- Dimensions:  
134 x 134 x 170 mm

\*277V available on request

# For easy installation and integration

We have built an application-ready solution that can be installed and integrated to fit your exact requirements. No component or detail has been overlooked in creating these dedicated drives. Drives that are quick to install, simple to customise, easy to mount and work in any condition.



## ● Connections

The connection compartment underneath the front cover gives easy access to all connectors and connection points. All are clearly marked to ensure quick and reliable installation.

## ● Flexible mounting

The OJ DRHX can be mounted vertically or horizontally, making it easy to adapt to your application.

## ● Cable glands

Supply, motor and communication cables are easily installed through centrally positioned glands.

## ● Compensation for non-linear heat transfer

The drive uses an inverted performance curve to automatically compensate the 0-10V signal, thereby ensuring much more linear heat transfer and more accurate control

## ● Purging ensured

When DRHX is stopped due to a low 0-10V signal, it will automatically start every 10 minutes and run for 10 seconds at 10% of the maximum speed setting. This ensures that the rotor continually passes by its purging section.

## ● Rotation monitor

The DRHX is equipped with a software rotation monitor, which means that no physical optical rotation guard is needed. A sophisticated control algorithm detects whenever rotation is absent.

# Drives for energy-efficient heat recovery

The DRHX range takes an all-new approach to rotary heat exchanger drives. Instead of using conventional geared motor technology, the combination of a stepper motor with field oriented sensorless motor control, brings you energy-optimised heat recovery and precise temperature control. This gives you an entirely new way of maximising the efficiency of your ventilation systems.



For over half a century  
OJ Electronics has specialised  
in designing and developing  
electronic controls for HVAC and  
underfloor heating systems.

With a reliable yet flexible supply chain, we  
take pride in delivering quality and performance  
in all our systems.

We understand the challenges our customers  
face and work closely with them to find original  
solutions. And by channelling our insight  
we create new opportunities for  
professionals throughout the industry  
to provide greater comfort.

## OJ ELECTRONICS A/S

### HEADQUARTERS

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