OJ Drives®

OJ DRHX
Constant speed

- Stop or maximum speed
- 4 speed settings via 2 DIP switches
- One digital input for Start/Stop
- Stepper motor solution
- 230V AC single phase supply
- Ignition-protected
- UL 61800-5-1 recognized

New drive for rotary heat exchangers
The DRHX is the next generation drive for rotary heat exchangers – based on all-new technology. The DRHX series covers the range from 1Nm to 14Nm with both RS-485 and analog control. You can even get a version with a 3x7-segment display.

An excellent new alternative to geared motors
DRHX is an advantageous new alternative to traditional geared motor solutions.
In contrast to geared motors, which lose torque at low and high speed, the stepper motor provides even torque throughout the entire speed range. The linear stepper motor torque curve means that rotor speed can be accurately controlled throughout a much wider range. This enables energy-efficient heat recovery and more precise tempera-ture control.

Sensorless rotation monitor
The DRHX is equipped with a sophisticated soft-ware that monitors the rotation of the rotor, which means that no physical/optical rotor guard is required (patent pending). Naturally, fewer components also means that you get easier installation.

Sensorless closed-loop control
Combining a high-torque stepper motor with closed-loop 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.

Constant speed
The Constant speed variant is the new member of the DRHX family. It is designed with simplicity in mind. It is equipped with a two pole connector. As soon as these are short circuit the connected motor will accelerate to max. speed. When the short circuit is open again the motor will reduce the speed to stop and automatically perform an alarm reset.

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	Type	DRHX-1055-NCN5	DRHX-1220-NCN5
Torque	Nm	1.0 / 2.0	4.0 / 8.0
Power size	W	27 / 55	110/260
Efficiency	%	> 90%	
Power supply			
Voltage	VAC	1 x 230 V AC 50/60 Hz -10%/+10%	
Supply current at max. load	A	0.3 / 0.6	
Power factor (cos-phi) at max. load		0.65	
Motor output			
Nominal motor power (on shaft) *1	kW	27 / 55	110 / 220
Motor speed	rpm	150 / 170 / 250 / 400	
Nominel motor Torque	Nm	1.0 / 2.0	4.0 / 8.0
Boost motor torque	Nm	1.5 / 3.0	6.0 / 12.0
Frequency	Hz	0-120	
Max. output voltage	Vrms	3 x 0 - 150V AC	
Max. output current	Arms	2.5	3.5
Protection			
Max. fuse	A	10	
Motor output		Short-circuit protected between phases	
Motor		Protected by current limit	
Impulse protection		Transient protected by VDR	
Overvoltage protection		No	
Overload protection		Current and temperature overload protection	
Environment			
Operating temperature	°C / °F	-40°C to +40°C / -40°F to +104°F	
Storage temperature	°C / °F	-40°C to +70°C / -40°F to +158°F	
Dimensions	mm	183 x 143 x 55	
Protection rating	IP	54	
Enclosure material		Plastic	
Front cover		Plastic	
Weight	kg	0.9	
Humidity	% rh	10-95% rh, non-condensing	
Cooling		Self-cooling	
Interfaces			
Digital In1 (internal Pull up)		Start / Stop (Configurable)	
Green LED		On: Power connected | Flashing: Active Modbus communication	
Red LED		Flashing: Alarm but keep running | Constant on: Serious alarm - stop motor	
DIP switch		4	
Functions			
Technology		Sinusoidal back-EMF signal controlled via FOC (Field Oriented Control)	
Ramp-up time	sec.	15-300	
Ramp-down time	sec.	15-300	
Alarm		Yes	
Alarm reset		Via digital input, MODBUS or powering down for more than 60 seconds	
Purging	sec.	Yes	
Service data log		Operating hours, alarms, loads, software version, max. temp., max. motor voltage, max. motor current, max. ripple voltage, max. ripple current	
Software updating		Yes, via serial interface	
Short-circuit protection		Yes	
EMC filter		Integrated	
Approvals			
EMC		EN/BS 61800-3 (C1 & C2)	
LVD		EN/BS 61800-5-1	
Product standard		EN /BS 61800 Part 2	
North America		UL-61800-5-2 / CS22.2.174	
Ignition-protected components		IEC/UL60335-2-40, cl.22.116 & cl.22.117 / UL 121201 Class1, Div2.	
RoHS Directive		Yes	
Product approvals		CE / c UL us	

Note: Data are valid at: nominal supply voltage and at +25°C ambient temperature
*1: IO option module is mounted as standard

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