

VACON AC DRIVES WIDEST COVERAGE ON MARKET





Vacon excellence from 0.25 kW to 3 MW

Make the perfect choice

Major features of Vacon AC drives

Vacon NXL

Vacon NXS

Vacon NXP

4	Vacon NXS and NXP applications

Vacon NXdrive

Liquid-cooled Vacon NXP

Vacon option boards

PC tools for Vacon drives

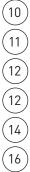
Subsidiaries and representative offices

















IT'S ALL ABOUT THE ATTITUDE

We at Vacon are the world-known specialists of AC drives in different shapes and forms. All Vacon drives are compact and user-friendly, and compared to constant speed solutions, they can save up to 50% in your energy consumption.

Vacon's professional, committed and innovative personnel has a long field experience and a wide expertise in various applications and services. This is why we have the skills to offer robust AC drives solutions to all your needs.

We offer a complete power range from $0.25~\mathrm{kW}$ to $3~\mathrm{MW}$, with global sales, support and service network. Our drives can substantially improve the quality and efficiency of your process or production. In many cases, they can even replace a complex control system.

VACON EXCELLENCE FROM 0.25 KW TO 3 MW

The key feature of all Vacon drives is full hardware and software modularity.

The Vacon concept of modularity is unique. There are three different control units, two cooling methods for power units, room for five different I/O cards and field-installable conversion kits, just to name a few. These elements can, to a degree, be mixed and matched.

The Vacon NXS and NXP control units can be detached from the power units and mounted elsewhere. The NXS control is designed for typical industrial applications that do not require the precision provided by a feedback device. The NXP control can use an encoder feedback to deliver the ultimate motor control performance.



The power unit of the drive is available in either an air-cooled or a liquid-cooled version.

The I/O cards can be used in all three drive types: one I/O card in the NXL to expand the basic I/O, and up to five I/O cards in the NXS and NXP to create the necessary I/O configuration for your application.

The NXL has a detachable, remote-operation seven-segment LCD keypad without memory capabilities. It is used to communicate with the drive, set parameters and for monitoring.

The NXS and NXP have a detachable, remote-operation alphanumeric keypad with built-in memory. It is used to communicate with the drive, set parameters and for monitoring. It can be used to copy parameters between different drives. It is capable of storing the active parameter set automatically for future use.

The Vacon NX control units are usually supplied by the power unit. The control unit can be powered from an external 24 V supply, making it possible to use the fieldbus communications and to read data even when the main supply is off.



VACON NXL
COMPACT DRIVE



VACON NXL GENERAL-PURPOSE DRIVE



VACON NXS
INDUSTRIAL DRIVE

The voltage ranges are 208 - 240 V, 380 - 500 V and 525 - 690 V three-phase AC.

	Power and Voltage	Enclosure	EMC	Options
Vacon NXL Compact drive	208 – 240 V 0.25 – 0.37 kW, 1-phase 0.55 – 1.5 kW, 1/3-phase	IP20	N	NXL I/O expander OPT-AA NX expanders OPT-Bx, -Cx Door installation kit, DRA-02L DIN rail mounting kit, DIN-MFx
	380 – 500 V, 3-phase 0.37 – 2.2 kW			RS-232 adapter kit, PAN-RS Footprint H-level filter
Vacon NXL General-purpose drive	380 – 500 V, 3-phase 0.75 – 30 kW	IP21 or IP54	C, H, T	NXL I/O expander, OPT-AA NX expanders OPT-Bx, Cx Door installation kit, DRA-02L
				RS-232 adapter kit, PAN-RS Flange mounting kit
Vacon NXS Industrial drive	208 – 240 V, 3-phase 0.37 – 30 kW	IP21 or IP54	C, H, L, T	NX expanders OPT-Ax, -Bx, -Cx Door installation kit, DRA-02B Flange mounting kit
	380 – 500 V, 3-phase 0.75 – 200 kW			r tunge mounting kit
	525 – 690 V, 3-phase 2.2 – 200 kW			
Vacon NXP High-performance drive	208 – 240 V, 3-phase 0.37 – 30 kW	IP21 or IP54 (IP00)	C, H, L, T	NX expanders OPT-Ax,-Bx,-Cx,-Dx Door installation kit,DRA-02B Flange mounting kit
	380 – 500 V, 3-phase 0.75 – 200 kW (1500 kW)			range mounting kit
	525 – 690 V, 3-phase 2.2 – 200 kW (1500 kW)			
Vacon NXdrive Enclosed drive	380 – 500 V, 3-phase 160 – 1500 kW	IP21 or IP54	L, T, N	A wide range of options available, e.g.
	525 – 690 V, 3-phase 200 – 1500 kW			- terminals - input devices - output filters - protection devices
Vacon NXP Liquid-cooled drive	380 – 500 V, 3-phase 7.5 – 1500 kW	IP00		Heat exchanger module A wide range of options available
	525 – 690 V, 3-phase 5.5 – 1500 kW			



VACON NXP
HIGH-PERFORMANCE DRIVE



VACON NXP
LIQUID-COOLED DRIVE



VACON NXDRIVE ENCLOSED DRIVE

MAKE THE PERFECT CHOICE



To choose the right Vacon AC drive for your needs, the experienced Vacon personnel is pleased to assist you in making the right decision. We know there are several issues to consider. Therefore, we have the know-how and willingness to help you to concentrate on the essentials.

Dimensioning

The load conditions of your application and the ambient temperature are the two main factors that affect most on the correct rating for the drive.

- starting torque
- variable torque
- constant torque
- overloadability
- 40°C, 45°C and 50°C ambient temperatures
- cooling: liquid or air
- physical size

Performance

The speed and torque accuracy as well as the response times needed for your application determine the type of control and

the control mode to be used.

- U/f frequency control
- sensorless vector control
- closed-loop vector control
- static and dynamic accuracy of speed and torque

Functionality

The application-specific requirements determine the number of inputs and outputs, control and monitoring principles, and the suitable software application.

- system integration
- control logic
- extendable I/O
- fieldbuses
- pump and fan control
- PID control
- parameter setting
- performance monitoring

Support

The production and other processes must run continuously without interruptions 24 hours a day, 7 days a week.

- technical support
- local and global presence
- 24/7 after sales and service
- commissioning
- diagnostics
- exchange units
- spare parts

Standards

Installations must be designed and carried out according to the safety and other regulations. Compliance with standards ensures that the drive operates properly in the given environment as specified.

- emissions and immunity (EMC)
- RFI
- harmonic currents and voltages
- low-voltage directive
- machine directive
- degree of protection (IP classes)
- CE, UL, C-UL and other approvals

Promptness

The ordered goods must be delivered at the scheduled time, especially in projects.

- production quality
- on-time delivery
- efficient logistics

MAJOR FEATURES OF VACON AC DRIVES

Quality and reliability

- Each drive tested at maximum temperature and at full motor load prior to shipment
- All drives made of high-quality components for long lifetime
- Comprehensive run-time self-supervision and alarm system for enhanced reliability and safety

Customer support

- Our worldwide service network available 24 hours a day, 7 days a week
- Dedicated customer support hotline open 365 days a year
- Comprehensive documentation available in many languages
- PC tools, manuals and special applications available for downloading on Vacon website

Full modularity

- Three control units (NXL, NXS, NXP)
- Air-cooled or liquid-cooled power units
- Room for up to five I/O cards (NXS, NXP), one I/O card for NXI
- Field-installable conversion kits
- Detachable, remote-operation keypads
- FR4-FR6 IP21-to-IP54 conversion kit

Easy installation and commissioning

- Quick and easy installation
- Start-up wizards for easy commissioning
- Compact size
- Motor parameter identification capability
- NC1131-3 Engineering tool for most demanding uses
- Versatile PC tools for loading, setting and comparing parameters
- Parameter transfers between drives and applications
- Slim, space-saving bookshelf design; side-by-side installation

User-friendly

- Smart preset parameters
- Common user interface for all power ratings
- The number of parameter settings can be kept to a minimum, thanks to the "All in One" application set

Environment-friendly

- Energy savings up to 50%
- Decreased mechanical stresses for the process
- Reduced noise levels

Versatile control and integration

- Single-drive and complex process control applications possible
- Unsurpassed flexibility in communication via multiple fieldbuses
- Dedicated inter-drive bus for coordinated drives
- Sophisticated, expandable I/O connections with quick terminals
- A large number of I/O cards available for different applications
- Control logic can be powered from an external supply
- "All in One" software package (NXS, NXP)
- Multi-control application (NXL)
- Wide selection of application software available
- RS232C terminal for PC connection (NCLoad, NCDrive and NC1131-3 tools)

ЕМС

- Integrated RFI filter for 1st environment, restricted and unrestricted distribution (households, light industry) as well as 2nd environment (industry)
- Integrated AC choke for maximum protection and minimum harmonics
- Modifiable EMC levels, e.g. H to T or L to T

Our local and global service network is available 24 hours a day, 7 days a week. For the service center nearest you, please see our web site **www.vacon.com**.



VACON NXL



The Vacon NXL is a slim, space-saving drive for the power range from 0.25 to 30 kW. The bookshelf design, the enclosure options and EMC classes offer an optimal solution for all operating environments.

The compact size and flexible installation options make the NXL suitable for installations where space is at a premium. The small MF2 and MF3 frames can be mounted using a DIN rail either at the back or at the side of the drive; the larger MF4-MF6 frames are wall mounted. They use the same power section enclosures as the NXS/NXP drives with the same installation dimensions. All mechanical variations available for the NXS/NXP range of drives are also available for the MF4-MF6 frames of NXL drives.

The drives are easy to program and use. In addition to the standard I/O in the basic drive, there is room for one option card with more I/O or some other functionality. The I/O terminal labelling and functionality correspond to that of the NXS/NXP range. Parameter setting is done either via the seven-segment LCD panel or via a PC and the NCDrive software. An adapter for PC programming is available.

The NXL builds on the modular design concept. The drive can be delivered with or without the panel, with or without option cards and in different enclosure classes, IP20 for the small MF2 and MF3 frames, IP21 and IP54 for the larger MF4-MF6 frames.

The Vacon NXL incorporates an integrated RS485 (Modbus) connector. Most of the option cards for the NXS/NXP range can be used with the NXL, specifically I/O expansion and fieldbus cards.

Features

- Steady state speed error < 1%
- Low torque ripple
- High immunity to resonance vibrations
- Starting torque > 200%, depending on motor and drive sizing
- Suitable for multi-motor applications

Multi-control application as standard

The NXL includes an easy-to-use and flexible multi-control application. The need for parameter adjustments is kept to a minimum, thanks to well-defined default settings. All I/Os can be programmed. The versatile features include full motor protection, flying start function, sleep function and a PID controller, with the possibility to control 3+1 pumps (PFC).

VACON NXS

VACON NXP

The Vacon NXS is designed to be a standard, easy-to-use drive with a wide application area. It is based on an advanced sensorless vector control concept, which gives a very good motor control under all circumstances. An automatic torque maximizer feature is available, ensuring that all loads can be started reliably. It also includes an automatic energy saving feature, which optimizes the motor flux as a function of motor load and speed. The basic drive operation is also suitable for multi-motor applications.

Features

- Steady state speed error < 1%
- Low torque ripple
- High immunity to resonance vibrations
- Starting torque > 200%, depending on motor and drive sizing
- Suitable for multi-motor applications
- High-speed applications (up to 7200 Hz) possible

The Vacon NXP is used in all cases where a very high precision of speed and torque under all circumstances are required. Equipped with high processing power, the NXP can use information from an encoder or a resolver in order to provide very precise motor control. Sensorless vector and normal U/f control are also supported. Typical applications requiring high performance are: master-slave drives, positioning applications, winder tension control, and synchronization.

Features

- Speed error < 0.01%, depending on the encoder
- Incremental or absolute encoder support
- Encoder voltages of 5 V (RS422), 15 V or 24 V, depending on the option card
- Full torque control at all speeds, including zero
- Torque accuracy < 2%; < 5% down to zero speed
- Starting torque > 200%, depending on motor and drive sizing
- Full capability for master/slave configurations
- Integrated data logger for system analysis
- Fast multiple drive monitoring with PC
- High-speed bus (12 Mbit/s) for fast inter-drive communication
- High-speed applications (up to 7200 Hz) possible



VACON NXS AND NXP APPLICATIONS

All Vacon NXS and NXP drives are delivered with the All in One application package, a selection of pre-installed applications. An application is a predefined set of parameters and functions, designed for a specific purpose.

When you choose the application that corresponds to your requirements, the drive will be easy to set up. All required parameters are available, but the parameters which are not needed in the specific application, will be hidden. For each application there is a start-up wizard that will guide you through the start-up process and parameter settings. The drive is also capable of identifying motor parameters, further easing the start-up.

All applications support fieldbuses, which allow access to all commands and all parameters.

The application that best fits your needs and I/O requirements can be chosen from the following:

Basic application

The basic application is the simplest of the available applications. It is intended for simple use where there is an external setpoint signal as well as external start/stop and direction commands. You need to set only a few motor and application dependent parameters.

Standard application

The standard application is intended for cases where the basic application is not sufficient. The main differences to the basic application are configurable I/O and fault operation.

Local/remote application

The local/remote application is designed for cases where the drive must be controlled from two different locations - typically a local one beside the motor and a remote one in the control room. The source of control is chosen by one digital I/O and is unambiguous at all times. All parameters relating to I/O functionality and general drive behavior are also available.

Multi-step speed control application

The multi-step speed control application is designed for cases where one to three digital inputs form a control word defining the speed of the drive. Up to sixteen different speeds can be pre-programmed. This application is typically used in environments where the motor must step through a repeated cycle with several preset speeds, such as coordinated conveyors, simple machine tools, or simple positioning applications.

PID control application

The PID application includes an internal PID controller. This controller can be used to maintain some variable, typically pressure or temperature, at a desired setpoint. The variable is measured, and if there is a difference to the setpoint, the motor speed will change in order to bring the variable to the correct value. The PID controller can also be used with an external speed sensing device to create a simple closed loop speed control.

Multi-purpose control application

The multi-purpose application is the most flexible one. It gives you access to all parameters, all I/Os and gives you the possibility to create mathematical functions using one or more inputs.

Pump and fan control with autochange

This application is designed for multiple pumps or fans that are connected in parallel. The idea is to use only the number of pumps required to meet the demand, using the drive to control the speed of one pump/fan and to switch on and off the other parallel pumps/fans. The autochange function allows the working hours of the various pump to be balanced for equal wear.

Customized applications

We also offer a wide range of special applications for special purposes, for example elevators, cranes, compressors, positioning, or winders. You can use our NC1131-3 tool to create a special application tailored to your exact needs.

VACON NXDRIVE

The Vacon NXdrive is the pre-engineered single-drive enclosure series. It is used for the higher powers, currents from 385 A (380 - 500 V) and from 261 A (525 - 690 V). The basic power units of the larger frames are designed as IP00 modules; therefore an enclosure is always needed. The enclosure can be supplied either by Vacon or by any independent system integrator.

Compact and flexible

The NXdrive is a free-standing enclosure for the larger power frames. A large number of pre-designed options are available, typically input (fuses, switches, breakers), output (filters) devices or control options. It is compact and well tested, fully utilizing the modular approach of the drives. In the design process, all requirements related to flexibility, robustness, compactness and service-friendliness were taken into account, creating a solution suitable for any application.

User-friendly

The Vacon NXP control unit is physically completely separated from the power module. It is mounted on a separate control compartment at an easily accessible height. The bracket also has space for additional control circuitry, such as relays, or contactors. The power input and output terminals have ample space for cable connection. Floor plates and 360 degree earthing clamps for cable shields are included in the standard delivery.

Fully tested

All NXdrive enclosures are designed with our long experience on enclosed high-power drives. Special care has been taken with temperature management, guaranteeing a long life for the enclosed drive. The EMC performance is also verified, leading to trouble-free operation in the industrial environment.

Service-friendly

The NXdrive has been designed to fully exploit the modular design of the high-power NXP drives. The power modules are mounted on extendable rails where needed. This allows easy servicing of the power module in case of need. The larger units consist of smaller phase modules, which can separately be taken out of the enclosure.

Easy ordering

The NXdrive can incorporate a variety of options such as input fuses, breakers, contactors, switches, and a selection of output filters (sine or du/dt). Each option is defined by adding an ordering code to the basic enclosure code, again creating a very modular system allowing you to define the exact drive you need.



LIQUID-COOLED VACON NXP



The modular construction of the Vacon NX range has allowed us to develop liquid-cooled power sections as an alternative to the standard air-cooled range. The liquid-cooled NX uses the NXP control modules, so no extra investment in training and use is needed.

As no air channels are required, the drives are extremely compact and suitable for all applications where space is at a premium, typically on ships and in the offshore industry, in mines or in the heavy industry. As almost all of the heat generated is removed in the coolant, a high degree of protection is easily achieved at all power ratings. The space savings compared to just the power module of a similarly rated air-cooled drive can be up to 70%.

VACON OPTION BOARDS

Suitability Board Type I/O Signal															
NXL	NXS	N X		DI	DO	AI (mA/V)	AI (mA/V) isolated	AO (mA/V)	A0 (mA) isolated	RO (NO/NC)	RO (NO)	+10ref	Therm	+24 V / EXT +24 V	
•	: : : : : : : : : : : : : : : : : : : :	•	Basic I/O cards OPT-A1 OPT-A2 OPT-A3 OPT-A4 OPT-A5 OPT-A8 OPT-A9 OPT-AA OPT-AA	6 6 6 3	1 1 1 1 2	2 2 2		1 1 1		2	1	1 1 1	1	2 2 2 1	
•	•	•	I/O expander cards OPT-B1 OPT-B2 OPT-B4 OPT-B5 OPT-B8 OPT-B9 OPT-BB	6			1		2	1	1 3 1		1	1 1 1	
•	•	•	Fieldbus cards OPT-C2 OPT-C3 OPT-C4 OPT-C5 OPT-C6 OPT-C7 OPT-C8	Modbus, N2 Profibus DP LonWorks Profibus DP (D9 type connector) CANopen (Slave) DeviceNet Modbus, N2 (D9 type connector)											
	•	:	Adapter cards OPT-D1 OPT-D2 OPT-D3 OPT-D6	System Bus adapter (2 fiber optic pairs) System Bus adapter (1 fiber optic pair) & CAN-bus adapter (galvanically decoupled) RS232 adapter card (galvanically decoupled) CAN-bus adapter (galvanically decoupled)											

The liquid-cooled drives are built around the hardware and software modularity concept used throughout the NX range. The liquid-cooled drives have a power section designed from the start for liquid cooling, contrasting with the more usual way of just replacing an air-cooled cooling element by a liquid-cooled one. This design has allowed a great reduction in size.

All components requiring cooling are mounted on one or more common aluminum cooling elements. The entire liquid-cooled power range has only six different chassis sizes. The same basic mechanics are used for both AC- and DC-fed drives. The cooling liquid, which can be pure drinking water, removes about 95% of the heat generated. There are no special dielectric requirements on the liquid (de-ionization), as it never comes into contact with the high potential in the drives.

The power module is connected to the NXP control module either via an optical cable or, in the smaller sizes, by a copper cable.

The required liquid/liquid or liquid/air heat exchangers and auxiliary devices can also be supplied.

Wide application area

All applications for the air-cooled Vacon NXP are available for the liquid-cooled ones. As a high degree of protection (IP54) can easily be achieved in these drives, they can be installed almost anywhere in the production areas. This also reduces the load on the air-conditioning system in the electrical rooms - in many retrofit applications this is an important consideration. As the liquid-cooled drives lack the large cooling fans, they are also quiet.

PT100	42-240 VAC input	DI / Encoder (1024 V)	DI / Encoder (RS 422, 5 V)	Out +5 V +15 V / +24 V	Out +15 V / +24 V
		3	3	1	1
3	5	2			1

Four different types of boards are available for the Vacon AC drives. The NXS and NXP accept a total of five option boards, and the NXL one board. All the boards and other extension boards follow the same type designation principle, they are all type designated as OPT-xx in the categories shown in the table.

Other options

A wide range of other options is available for the Vacon NXS, NXP and NXL:

- Kits for IP54 enclosure, FR4-FR6 and MF4-MF6
- Flange mount kits, FR4-FR9 and MF4-MF6
- External and internal brake resistors
- DIN rail installation for MF2 and MF3
- Door installation control panel kits
- RFI filters
- du/dt filters
- Sine filters

PC TOOLS FOR VACON DRIVES

We offer a variety of PC tools for making the use of the Vacon AC drives as easy and convenient as possible. Some of the software is available on our website, www.vacon.com. The tools are intended for tasks such as commissioning, monitoring, loading various applications and application programming. The PC is connected to the drive via the RS232.

Vacon NCDrive

The NCDrive is the commissioning and monitoring tool for the Vacon NX. It allows you to download and upload parameter sets between the drive and the PC, compare parameter sets, change the active application, save and print parameters and service reports to file or paper, control the drive, set references, operate the NXP data logger, and more.

The NCDrive also allows you to monitor up to eight user-specified variables simultaneously on a graphical trend screen, and to save these on your hard disk for later analysis. In the Vacon NXP, it can also operate the data logger and communicate via CAN with up to 254 drives.

This software is available for free downloading on our website.

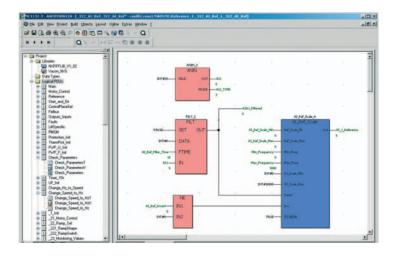
Vacon NCLoad

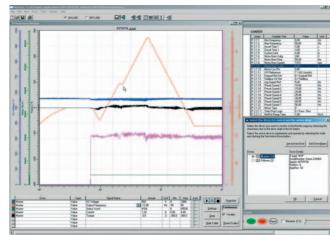
The NCLoad is a basic tool for downloading applications, system software and option card software into the Vacon NX. The graphical user interface provides an easy point-and-click selection of applications to be downloaded. Mainly intended for use by service personnel, it is also freely available on our website.

Vacon NC1131-3

The NC1131-3 is a graphical programming tool for creating professional and efficient NX applications. It complies with the IEC 61131-3 PLC programming standard. All methods defined in the standard can be used: functional block diagrams, structured text, ladder diagrams, instruction list and state diagrams. These can be used separately or in combination.

One application can contain about 2000 blocks, depending on their size and complexity. When new applications are created, typically one of the existing applications is used as a template to minimize the effort, as the existing applications contain the majority of the functionality required. This program is for sale. The price includes training at our facilities in Vaasa and continuous software tool updates. Our application design team can also assist you in creating applications of your own. For more information, contact your local Vacon representative.







HEAD OFFICE

Vacon Plc

Runsorintie 7, 65380 Vaasa, Finland
Tel. +358 (0)201 2121, Fax +358 (0)201 212 205
www.vacon.com, e-mail: info@vacon.com



VACON SUBSIDIARIES AND REPRESENTATIVE OFFICES

Austria

Vacon AT Antriebssysteme GmbH Aumühlweg 21 2544 Leobersdorf www.vacon.at Tel. +43 2256 651 66 Fax +43 2256 651 66 66 Email: vacon.austria@vacon.com

Belaium

Vacon Benelux NV/SA Interleuvenlaan 62 3001 Heverlee (Leuven) Tel. +32(0)16 394 825 Fax +32(0)16 394 827 Email: info@vacon.be

France

Vacon France s.a.s.
Batiment le Sextant
462 rue Benjamin Delessert
ZI de Moissy Cramayel
BP 83
77554 Moissy Cramayel
www.vacon-france.fr
Tel. +33 (0)1 64 13 5 11
Fax +33 (0)1 64 13 54 21
Email: vacon.france@vacon.com

Germany

Vacon GmbH Gladbecker Strasse 425 45329 Essen www.vacon.de Tel. +49 (0)201 806 700 Fax +49 (0)201 806 7099 Email: vacon.germany@vacon.com

Italy

Vacon SpA
Via F.lli Guerra, 35
42100 Reggio Emilia (RE)
www.vacon.it
Tel. +39 0522 276 811
Fax +39 0522 276 890
Email: vacon.italy@vacon.com

The Netherlands

Vacon Benelux BV
Weide 40
4206 CJ Gorinchem
www.vacon.nl
Tel. +31[0]183 642 970
Fax +31[0]183 642 971
Email: vacon.benelux@vacon.com

Norway

Vacon AS Langgata 2 3080 Holmestrand www.vacon.no Tel. +47 330 96120 Fax +47 330 96130 E-mail: vacon.norway@vacon.com

People's Republic of China

Vacon Plc A 205, Grand Pacific Garden Mansion 8A Guanghua Road Beijing 100026 www.vacon.com.cn Tel. +86 10 6581 3734 Fax +86 10 6581 3754 Email: vacon.china@vacon.com

Vacon (Suzhou) Drives Co., Ltd Suchun Industrial Square 13C&13D Suzhou Tel. +86 512 62886675 and 79 Fax +86 512 62886652

Russia

ZAO Vacon Drives Bolshaja Jakimanka, 31 109180 Moscow www.vacon.ru Tel. +7 (095) 974 14 47 Fax +7 (095) 974 15 54 E-mail: vacon.russia@vacon.com ZAO Vacon Drives
St. Petersburg Representative Office
2ya Sovetskaya 7, office 210A
191036 St. Petersburg
www.vacon.ru
Tel. +7 812 332 1114
Fax +7 812 279 9053
E-mail: vacon.russia@vacon.com

Singapore

Vacon Plc
Singapore Representative Office
102F Pasir Panjang Road
#02-06 Citilink Warehouse Complex
Singapore 118530
Tel. +65 6278 8533
Fax +65 6278 1066
Email: vacon.singapore@vacon.com

Spain

Vacon Drives Ibérica S.A. Miquel Servet, 2 P.I. Bufalvent 08240 Manresa www.vacon.es Tel. +34 938 774 506 Fax +34 938 770 009 Email: vacon.spain@vacon.com

Sweden

Vacon AB Torget 1 172 67 Sundbyberg www.vacon.se Tel. +46 [0]8 293 055 Fax +46 [0]8 290 755 Email: vacon.sweden@vacon.com

United Kingdom

Vacon Drives (UK) Ltd. Unit 11, Sunnyside Park Wheatfield Way, Hinckley LE10 1PJ Leicestershire www.vacon.co.uk Tel. +44 (0)1455 611 515 Fax +44 (0)1455 611 517 Email: vacon.uk@vacon.com

Vacon Partner