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Danfoss VACON NXP and VACON NXC AC Drives

Continuous control. Pure power

VACON® NXP is a premium air-cooled AC drive for use in all applications where reliability, robust performance, precision and power are required. These drives are available in the power range from 0.55 kW to 2,000 kW.

Ideal for demanding applications

VACON® NXP range offers the ultimate in motor control, for both induction and permanent magnet (PM) motors, gearless drive applications and paralleling solutions for high power motors. VACON® NXP is the smart drive of choice. With fast fieldbus options and exceptional programming flexibility, your VACON® NXP is easily integrated into any plant's automation system. Satisfied customers also rely on our enclosed cabinet drive solution, VACON® NXC, to perform in the most challenging industrial environments such as oil and gas, extrusion, mining, pulp and paper, water and wastewater applications. With improved functional safety, extensive approvals in place and comprehensive maintenance tools, you can be sure that your VACON® AC drives will give you the best possible control and ensure high operational quality and availability over the entire lifetime of your system. Our VACON® NXP portfolio fulfills key international standards and global requirements, including safety and EMC and Harmonics approvals.

In harmony with the environment

Our commitment to being a environmentally responsible company is exemplified in our energy-saving products and solutions. We have developed our manufacturing process in

order to minimize the impact on the environment. All excess materials in the production and service processes are carefully sorted and recycled.

We continue to develop innovative solutions utilizing regenerative energy and smart grid technology to help customers effectively monitor and control energy use and costs. At your service Whether you are an original equipment manufacturer (OEM), system integrator, brand label customer, distributor or end user, Danfoss Drives provides services to help you meet your business targets. Our global service solutions are available 24/7 throughout the product lifecycle with the intent to minimize the total cost of ownership and environmental load.

VACON® NXP wall-mounted range

VACON® NXP drive modules

VACON® NXC drive cabinets

VACON® NXP/NXC

Typical segments	Key features	Benefits
■ Mining and Minerals ■ Compressors ■ Marine and Offshore ■ Cranes and Hoists ■ Metals ■ Chemical and Refining ■ Water and Wastewater ■ Oil and Gas ■ Pulp and Paper ■ Cement and Gass ■ General process industry	Full power and voltage range from 0.55 kW to 2.0 MW for both induction and permanent magnet motors.	Same software tools, same control and option boards allowing the maximum utilization of VACON® NXP features over a wide power range.
	Extensive range of ready-to-use applications for basic to demanding needs.	No additional software engineering required, saving time and money.
	Create your own applications with VACON® Programming tool (licensed software tool).	Customized applications provide added flexibility to meet process requirements.
	Five built-in expansion slots for additional I/O, fieldbus and functional safety boards.	No additional external modules required. Options boards are compact and easy to install at any time.

Multiple options

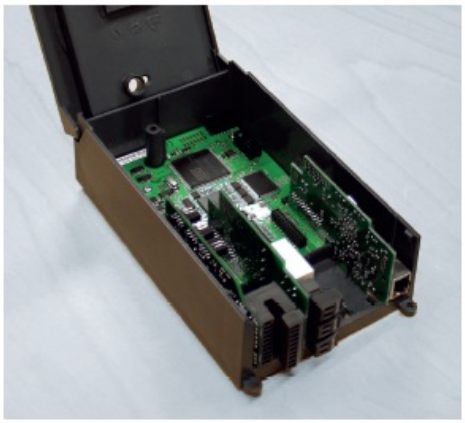
- **VACON® NXP Control**

  VACON® NXP offers a high-performance control platform for all demanding drive applications. The microcontroller provides both exceptional processing power and small footprint. The VACON® NXP supports both induction and permanent magnet motors in open and closed loop control modes. It also provides bumpless control for transferring between open loop and closed loop. VACON® Programming tool can be

used to improve performance and save costs by integrating customer-specific functionality into the drive. The same control board is used in all VACON® NXP drives, allowing the maximum utilization of VACON® NXP control features over a wide power and voltage range.

- **Option boards**

  Our VACON® NXP Control provides exceptional modularity by offering five (A, B, C, D and E) plug-in extension slots. Fieldbus boards, encoder boards as well as wide range of IO boards can simply be plugged-in at any time without the need to remove any other components. A listing of all options boards is provided on page 21.



- **Fieldbus options**

  Your VACON® NXP is easily integrated within a plant's automation system by using plug-in fieldbus option boards including PROFIBUS DP, Modbus RTU, DeviceNet and CANopen. Fieldbus technology ensures increased control and monitoring of the process equipment with reduced cabling – ideal for industries where the need to ensure that products are produced under the right conditions is of paramount importance. An external +24 V supply option enables communication with the control unit even if the main supply is switched off. Fast drive-to-drive communication is possible using our fast SystemBus fiber optic communication. communication is possible using our fast SystemBus fiber optic communication. Profibus DP |

DeviceNet | Modbus RTU | CANopen

- **Ethernet connectivity**
  VACON® NXP is the smart drive of choice, as there is no need to purchase additional communication tools. Ethernet connectivity allows remote drive access for monitoring, configuring and troubleshooting. Our Ethernet protocols such as PROFINET IO, EtherNet/IP and Modbus/TCP are available for all VACON® NXP drives. New Ethernet protocols are being continuously developed.
  Modbus/TCP | PROFINET IO + System Redundancy S2 and PROFISAFE | EtherNet/IP

Functional safety

Advanced Safety Options

The VACON Advanced Safety Options operate the safety functions of an AC drive via the PROFIsafe fieldbus or I/O control. They improve flexibility by connecting safety devices within a plant.

Safe Stop functions

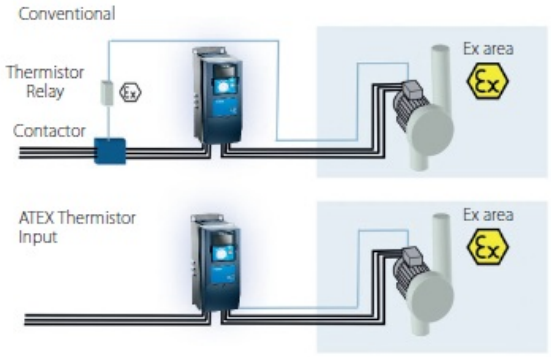
- STO – Safe Torque Off
- SS1 – Safe Stop 1
- SS2 – Safe Stop 2
- SBC – Safe Brake Control
- SQS – Safe Quick Stop

Safe Speed functions

- SLS – Safely-limited Speed
- SSM – Safe Speed Monitor
- SSR – Safe Speed Range
- SMS – Safe Maximum Speed

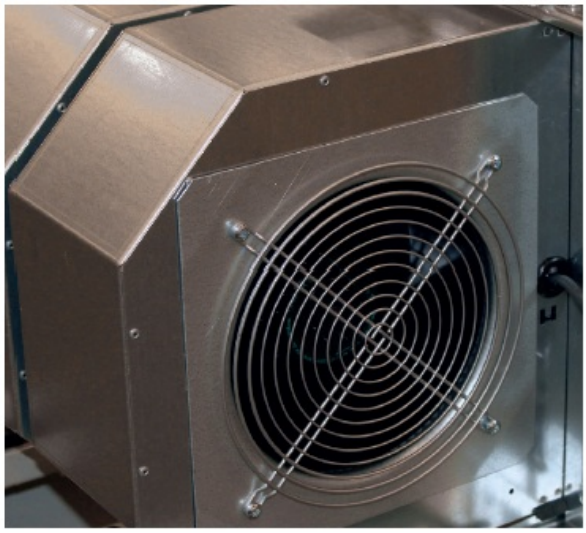
ATEX certified thermistor input

An ATEX approved thermistor input is available as an integrated option. Certified and compliant with the European ATEX directive 94/9/EC, the integrated thermistor input is specially designed for the temperature supervision of motors that are placed in areas in which potentially explosive gas, vapor, mist or air mixtures are present and areas with combustible dust. Typical industries requiring such supervision include chemical, petrochemical, marine, metal, mechanical, mining, and oil drilling. If oveheating is detected, the drive immediately stops feeding energy to the motor. As no external components are needed, the cabling is minimized, improving reliability and saving on both space and costs.



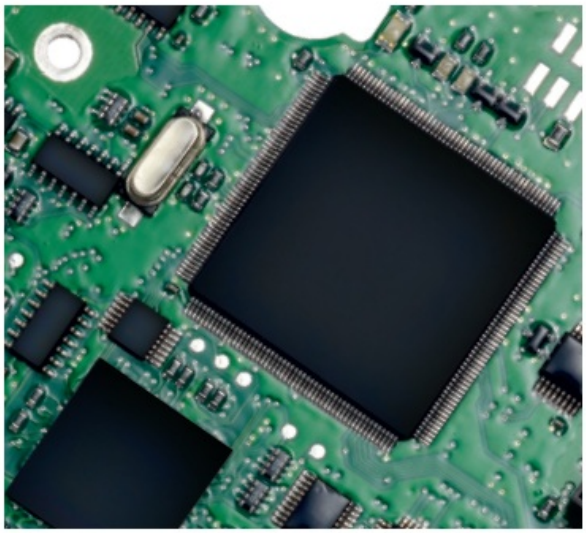
DC cooling fans

VACON® NXP high-performance air-cooled products are equipped with DC fans. This significantly increases the reliability and lifetime of the fan also fulfilling the ERP2015 directive on decreasing fan losses. Likewise, the DC-DC supply board component ratings fulfill industrial requirement levels.



Conformal coating

To increase performance and durability, conformally coated circuit boards (also known as varnished boards) are provided as standard for power modules (FR7 – FR14). The upgraded boards offer reliable protection against dust and moisture and extend the lifetime of the drive and critical components.



Commissioning made easy

User-friendly keypad

The user interface is intuitive to use. You will enjoy the keypad’s well-structured menu system that allows for fast commissioning and trouble-free operation.

- Removable panel with plug-in connection
- Graphical and text keypad with multiple language support
- Text display multi-monitoring function
- Parameter backup and copy function with the panel’s internal memory
- The startup wizard ensures a hassle-free set up. Choose the language, application type and main parameters during the first power-up.

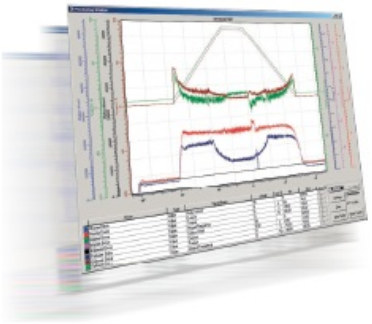
Documentation wizard

Make use of our VACON® Documentation Wizard and achieve dramatic savings in engineering time. The Documentation Wizard is a technical documentation tool, which creates a complete set of drawings for each VACON® NXC configuration. Just enter the product information, i.e. a type code, required variations and extra equipment (plus

codes) into the user interface field, and the tool will automatically generate the documentation in any of the following formats: DWG (AutoCAD) drawings, DXF (AutoCAD) drawings, PDF (Adobe reader) and E-plan project (prj).

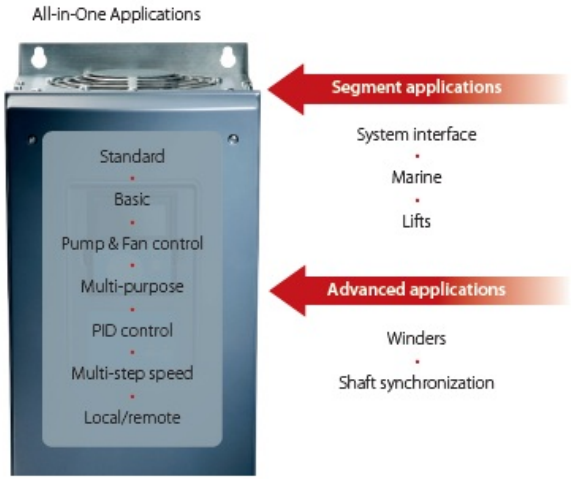
VACON® NCDrive

VACON® NCDrive is used for setting, copying, storing, printing, monitoring and controlling parameters. The VACON® NCDrive communicates with the drive via the following interfaces: RS-232, Ethernet TCP/IP, CAN (fast multiple drive monitoring), CAN@Net (remote monitoring). VACON® NCDrive also includes a handy Datalogger function, which offers you the possibility to monitor and analyze data. PC-tools can be downloaded from http://drives.danfoss.com



All-in-one application package

The All-in-One application package has seven built-in software applications, which can be selected with one parameter. In addition to the All-in-One package, we offer several segment specific and advanced applications such as System Interface application, Marine application, Lift application and Shaft Synchronisation application for more demanding uses. VACON® NXP applications can be downloaded from http://drives.danfoss.com

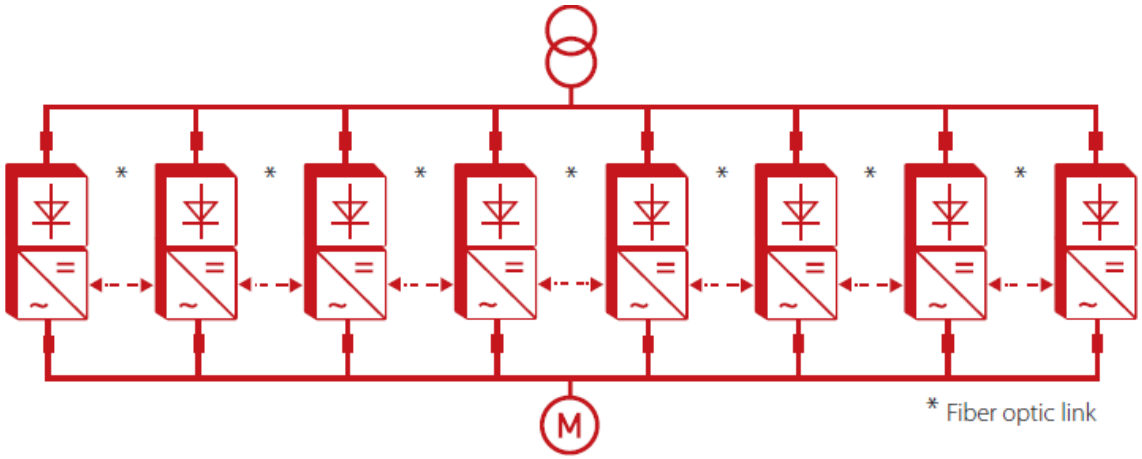


High power and improved redundancy

VACON® DriveSync is our innovative control concept for running standard drives in parallel to control high-power AC motors or increase the redundancy of a system. This concept suits single or multiple winding motors typically above 1 MW.

Powerful AC drives can be built using standard drive components and have the following benefits:

- The system is modular and easy to extend
- High total power can be obtained by combining smaller drives
- System redundancy is higher than in a conventional drive because each unit can run independently
- Individual drive is easy to maintain and service
- Identical units reduce the required amount of spare parts thus reducing overall costs
- No special skills are required for the engineering, installation, commissioning and maintenance of drives as they are comprised of standard modules
- It is possible to run multiple winding motors with a phase shift between the windings



Example of the VACON® DriveSynch configuration.

Typical VACON® DriveSynch examples using VACON® NXP/NXC drives

Mains voltage	AC drive type	Loadability				Motor shaft power		Frame size	Dimensions and weight W x H x		
		Low (+ 40°C)		High (+ 50°C)			400 V supply				
		Rated continuous	10% overload	Rated continuous	50% overload	Maximum current	10% overlo	50% overlo			
	2 x NXC 1150 5 A 2 L 0 SSF										

		current I_L [A]	**current [A]**	**current I_H [A]**	**current [A]**	**I_S [A]**	**adP [kW]**	**adP [kW]**	**ze**	**D (mm)/ kg**	
380-500 V 50/60 Hz		2150	2365	1940	2910	3492	1200	1000	2 x FR13	1606 x 2275 x 605/1350	
	2 x NXC 1300 5 A 2 L 0 SSF	2470	2717	2185	3278	3933	1350	1100			
	2 x NXC 1450 5 A 2 L 0 SSF	2755	3031	2470	3705	4446	1500	1350			
	3 x NXC 1150 5 A 2 L 0 SSF	3278	3605	2936	4403	5284	1800	1500	3 x FR13		
	3 x NXC 1300 5 A 2 L 0 SSF	3705	4076	3278	4916	5900	2000	1800			

	3 x NXC 1 450 5 A 2 L 0 SSF	41 33	45 46	37 05	55 58	66 69	22 50	20 00			

Values are given at switching frequency 2.0 kHz.

Mains voltage		**Loadability**					**Motor shaft power**				
		Low (+40°C)		**High (+50°C)**			**690 V supply**				
		Rated continuous current I_L [A]	**10% overload current [A]**	**Rated continuous current I_H [A]**	**50% overload current [A]**	**Maximum current Is [A]**	**10% overload P [kW]**	**50% overload P [kW]**	**Frame size**	**Dimensions and weight W x H x D (mm)/kg**	
525-690 V 50/60	**AC drive type** 2 x NXC 0920 6 A 2 L 0 SSF	1748	1920	1500	2337	2679	1710	1520	2 x FR13	1406 x 2275 x 605/1250	
	2 x NXC 1030 6 A 2 L 0 SSF	1810	2000	1500	2337	2679	1710	1520			

Hz	2 x NXC 1180 6 A 2 L 0 SSF*	1950	2140	1630	2500	3335	1900	1610			
	3 x NXC 0920 6 A 2 L 0 SSF	2622	2884	2337	3490	4019	2500	2200	3 x FR13	1406 x 2275 x 605/1250	
	3 x NXC 1030 6 A 2 L 0 SSF	2706	3000	2337	3490	4019	2500	2200			
	3 x NXC 1180 6 A 2 L 0 SSF*	2910	3210	2500	3735	5002	2800	2410			

*Max. ambient temperature of +35°C.

Values are given at switching frequency 2.0 kHz.

VACON® NXP wall-mounted

The VACON® NXP wall-mounted is one of the most compact and comprehensive drive packages on the market, with all the necessary components integrated in a single frame. For the lower power range, VACON® NXP drives are available in a compact IP21 or IP54 frame.

Fully equipped

VACON® NXP wall-mounted units are equipped with internal EMC filtering and the

power electronics are integrated into an all-metal frame. The smaller frame sizes (FR4-FR6) have an integrated brake chopper as standard and the 380-500 V units can be equipped with an integrated brake resistor. The larger frames (FR7-FR12) can be equipped with an integrated brake chopper as an option.

Typical applications

- Elevators and escalators
- Cranes and hoists
- Winches and cargo pumps
- Pumps and fans
- Conveyors
- Machine tools
- Yaw and pitch control
- Oil pumps
- Winders and unwinders
- Pulp dryers
- Tissue machinery
- Extruders

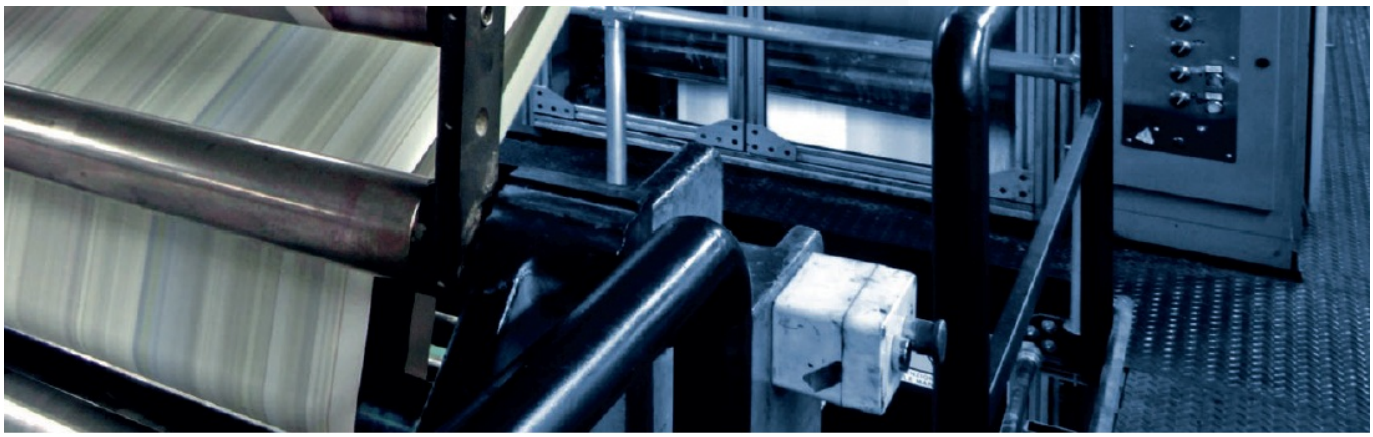
Features

- Complete voltage range 230…690 V AC
- Removable panel with parameter back-up function
- Common control board
- Built-in I/0 expandability, 5 slots available and option boards in all frame sizes
- Marine type approvals and functional safety features
- Integrated brake chopper as standard in FR4-6, 380-500 V units.

Benefits

- One type of drive for wide power and voltage range reduces the complexity and the need for additional training
- Easier commissioning – saves time
- Same software tools and applications for the entire range

- Compact and easy to install –saves time and money
- System complexity can be reduced saving engineering time and costs



Ratings and dimensions

Mains voltage		**Loadability**				**Motor shaft power**				
		Low (+40°C)		**High (+50°C)**		**230 V / 400 V/ 690 V**				
		Ra		**Ra**		**Ma**				

	AC drive typeNXP 0003 2 A 2 H 1 S S S	**ted continuous current I_L [A]** 3.7	**10 % overload current [A]** 4.1	**ted continuous current I_H [A]** 2.4	**50 % overload current [A]** 3.6	**ximum current I_S [A]** 4.8	**10 % overload P [kW]** 0.55	**50 % overload P [kW]** 0.37	**Frame size** FR4	**Dimensions and weight W x H x D (mm)/ kg**128 x 292 x 190/ 5	
	NXP 0004 2 A 2 H 1 S S S	4.8	5.3	3.7	5.6	7.4	0.75	0.55			
	NXP 0007 2 A 2 H 1 S S S	6.6	7.3	4.8	7.2	9.6	1.1	0.75			
	NXP 0008 2 A 2 H 1 S S S	7.8	8.6	6.6	9.9	13.2	1.5	1.1			
	NXP 0011 2 A 2 H 1 S S S	11	12.1	7.8	11.7	15.6	2.2	1.5			

208-240 V50/60 Hz3~	NXP 0012 2 A 2 H 1 S S S	12.5	13.8	11	16.5	22	3	2.2			
	NXP 0017 2 A 2 H 1 S S S	17.5	19.3	12.5	18.8	25	4	3	FR5	144 x 391 x 214/ 8.1	
	NXP 0025 2 A 2 H 1 S S S	25	27.5	17.5	26.3	35	5.5	4			
	NXP 0031 2 A 2 H 1 S S S	31	34.1	25	37.5	50	7.5	5.5			
	NXP 0048 2 A 2 H 1 S S S	48	52.8	31	46.5	62	11	7.5	FR6	195 x 519 x 237/ 18.5	
	NXP 0061 2 A 2 H 1 S S S	61	67.1	48	72	96	15	11			
	NXP 0075 2 A 2 H 0 S S S	75	83	61	92	122	22	15			

NXP 0088 2 A 2 H 0 S S S	88	97	75	113	150	22	22	FR7	237 x 591 x 257/ 35	
NXP 0114 2 A 2 H 0 S S S	114	125	88	132	176	30	22			
NXP 0140 2 A 2 H 0 S S S	140	154	105	158	210	37	30	FR8	291 x 758 x 344/ 58	
NXP 0170 2 A 2 H 0 S S S	170	187	140	210	280	45	37			
NXP 0205 2 A 2 H 0 S S S	205	226	170	255	336	55	45			
NXP 0261 2 A 2 H 0 S S F	261	287	205	308	349	75	55	FR9	480 x 1150 x 362/ 146	
NXP 0300 2 A 2 H 0 S S F	300	330	245	368	444	90	75			

	NXP 0003 5 A 2 H 1 S S S	3.3	3,6	2,2	3,3	4,4	1,1	0,75	FR4	128 x 292 x 190/ 5	
	NXP 0004 5 A 2 H 1 S S S	4,3	4,7	3,3	5	6,2	1,5	1,1			
	NXP 0005 5 A 2 H 1 S S S	5,6	6,2	4,3	6,5	8,6	2,2	1,5			
	NXP 0007 5 A 2 H 1 S S S	7,6	8,4	5,6	8,4	10,8	3	2,2			
	NXP 0009 5 A 2 H 1 S S S	9	9,9	7,6	11,4	14	4	3			
	NXP 0012 5 A 2 H 1 S S S	12	13,2	9	13,5	18	5,5	4			
	NXP 0016 5 A 2 H 1 S S S	16	17,6	12	18	24	7,5	5,5			

380-500 V50/60 Hz 3~	NXP 0022 5 A 2 H 1 S S S	23	25,3	16	24	32	11	7,5	FR5	144 x 391 x 214/8.1	
	NXP 0031 5 A 2 H 1 S S S	31	34	23	35	46	15	11			
	NXP 0038 5 A 2 H 1 S S S	38	42	31	47	62	18,5	15	FR6	195 x 519 x 237/18.5	
	NXP 0045 5 A 2 H 1 S S S	46	51	38	57	76	22	18,5			
	NXP 0061 5 A 2 H 1 S S S	61	67	46	69	92	30	22			
	NXP 0072 5 A 2 H 0 S S S	72	79	61	92	122	37	30	FR7	237 x 591 x 257/35	
	NXP 0087 5 A 2 H 0 S S S	87	96	72	108	144	45	37			

	NXP 0105 5 A 2 H 0 S S S	105	116	87	131	174	55	45		
	NXP 0140 5 A 2 H 0 S S S	140	154	105	158	210	75	55	FR8	291 x 758 x 344/58
	NXP 0168 5 A 2 H 0 S S S	170	187	140	210	280	90	75		
	NXP 0205 5 A 2 H 0 S S S	205	226	170	255	336	110	90		
	NXP 0261 5 A 2 H 0 S S F	261	287	205	308	349	132	110	FR9	480 x 1150 x 362/146
	NXP 0300 5 A 2 H 0 S S F	300	330	245	368	444	160	132		
	NXP 0004 6 A 2 L 0 S S S	4,5	5	3,2	4,8	6,4	3	2,2		

525-690V50/60 Hz 3~	NXP 0005 6 A 2 L 0 S S S	5,5	6,1	4,5	6,8	9	4	3	FR6	195 x 519 x 237/18.5	
	NXP 0007 6 A 2 L 0 S S S	7,5	8,3	5,5	8,3	11	5,5	4			
	NXP 0010 6 A 2 L 0 S S S	10	11	7,5	11,3	15	7,5	5,5			
	NXP 0013 6 A 2 L 0 S S S	13,5	14,9	10	15	20	11	7,5			
	NXP 0018 6 A 2 L 0 S S S	18	19,8	13,5	20,3	27	15	11			
	NXP 0022 6 A 2 L 0 S S S	22	24,2	18	27	36	18,5	15			
	NXP 0027 6 A 2 L 0 S S S	27	29,7	22	33	44	22	18,5			
	NXP 0034 6 A 2 L 0 S S S	34	37	27	41	54	30	22			
	NXP 0041 6 A 2 L 0 S S S	41	45	34	51	68	37,5	30	FR	237 x 591 x 25	

NXP 0052 6 A 2 L 0 S S S	52	57	41	62	82	45	37,5	7	7/35	
NXP 0062 6 A 2 L 0 S S S	62	68	52	78	104	55	45	FR8	291 x 758 x 344/58	
NXP 0080 6 A 2 L 0 S S S	80	88	62	93	124	75	55			
NXP 0100 6 A 2 L 0 S S S	100	110	80	120	160	90	75			
NXP 0125 6 A 2 L 0 S S F	125	138	100	150	200	110	90	FR9	480 x 1150 x 362/146	
NXP 0144 6 A 2 L 0 S S F	144	158	125	188	213	132	110			
NXP 0170 6 A 2 L 0 S S F	170	187	144	216	245	160	132			
NXP 0208 6 A 2 L 0 S S F	208	229	170	255	289	200	160			

VACON® NXP drive module

VACON® NXP high-power IP00 drive modules are intended for installation into a cabinet, switchgear or any separate enclosure. Module installation in standard enclosures is easy given the compact design.

Designed to fit

VACON® NXP drive modules of frame size FR10 – FR12 embody one (FR10 and FR11) or two (FR12) power modules. VACON® NXP frame sizes FR13 – FR14 comprise two to four non-regenerative front-end (NFE) units and one (FR13) or two (FR14) inverter units. External AC chokes are also included in the delivery. The VACON® NXP modules are available as both 6-pulse and
12-pulse supply versions.

Typical applications

- Conveyors
- Cranes and lifts
- High-speed compressors
- Ski lifts
- Main propulsion and bow thrusters
- Extruders
- Winches & cargo pumps
- Oil pumps
- Test benches
- Static power supply
- Grinders and mixers

- Winders and unwinders
- Chippers
- Tunneling Machines

Features

- Easy cabinet integration with additional assembly kits
- One of the smallest on the market
- Extensive marine type approvals
- VACON® DriveSynch features

Benefits

- With optimized module design, less engineering is needed saving time and money
- Compact module size require less cabinet space, while reducing the overall costs
- Improved redundancy and higher powers up to 5 MW

VACON® NXP drive module (FR10)

Hardware configurations

Function	Availability

Integrated control	Standard
External control	Optional
Integrated brake chopper	Optional (FR 10-12)
6-Pulse Supply	Standard
12-Pulse Supply	Optional
EMC filtering N	Standard
EMC filtering T (for IT -networks) AC choke Output filters dU/dt, Sine and com mon mode	Optional Standard Optional

Ratings and dimensions

		Loadability			**Motor s haft po wer**			
		Low (+ 40°C)	**High (+ 40°C)**		**400 V / 690 V**			

Mains voltage	AC drive type	Rated continuous current I_L [A]	10 % overload current [A]	Rated continuous current I_H [A]	50 % overload current [A]	Maximum current I_S [A] 540	10 % overloadP [kW]	50 % overloadP [kW]	Frame size	Module W x H x D (mm)/ kg	Chokes W x H x D (mm)/ kg
	NXP 0385 5 A 0 N 0 SSA	385	424	300	450		200	160			350 x 383 x 262/84 1)
	NXP 0460 5 A 0 N 0 SSA	460	506	385	578	693	250	200	FR 10	500 x 1165 x 506/120	497 x 399 x 244/115 1)
	NXP 0520 5 A 0 N 0 SSA*	520	572	460	690	828	250	250			497 x 399 x 244/115 1)
	NXP 0590 5 A 0 N 0 SSA	590	649	520	780	936	315	250			

	NXP 0650 5 A 0 N 0 SS A	650	715	590	885	1062	355	315	FR 11	709 x 1206 x 506/210	2 x (350 x 383 x 262/ 84)
	NXP 0730 5 A 0 N 0 SS A	730	803	650	975	1170	400	355			
	NXP 0820 5 A 0 N 0 SS A	820	902	730	1095	1314	450	400			
	NXP 0920 5 A 0 N 0 SS A	920	1012	820	1230	1476	500	450	FR 12	2 x (500 x 1165 x 506 /120)	2 x (497 x 399 x 244/ 115)
380 -500 V	NXP 1030 5 A 0 N 0 SS A	1030	1133	920	1380	1656	560	500			
50/ 60 Hz	NXP 1150 5 A 0 N 0 SS F	1150	1265	1030	1545	1854	630	560		2 x (239 x 1030 x 372 /67) +	2 x (497 x 449 x 249/ 130)
3~										1 x (708 x 1030 x 553 /302)	

	NXP 1300 5 A 0 N 0 SS F	1300	1430	1150	1725	2070	710	630	FR 13	3 x (239 x 1030 x 372 /67) +1 x (708 x 1030 x 553/302) [2]	3 x (497 x 449 x 249/ 130) [2]
	NXP 1450 5 A 0 N 0 SS F	1450	1595	1300	1950	2340	800	710		3 x (239 x 1030 x 372 /67) +	3 x (497 x 449 x 249/ 130) [2]
										1 x (708 x 1030 x 553 /302) [2]	
	NXP 1770 5 A 0 N 0 SS F	1770	1947	1600	2400	2880	1000	900		4 x (239 x 1030 x 372 /67) +	4 x (497 x 449 x 249/ 130)
									FR 14	2 x (708 x 1032 x 553 /302)	
	NXP 2150 5 A 0 N 0 SS F	2150	2365	1940	2910	3492	1200	1100		4 x (239 x 1030 x 372 /67) +	4 x (497 x 449 x 249/ 130)
										2 x (708 x 1032 x 553 /302)	
	NXP 0261 6 A 0 N 0 SS A	261	287	208	312	375	250	200		500 x 1165 x 506/120	354 x 319 x 230/53 [3]

	NXP 0325 6 A 0 N 0 SS A	325	358	261	392	470	315	250	FR 10	500 x 1165 x 506/120	350 x 383 x 262/84 [3]
	NXP 0385 6 A 0 N 0 SS A	385	424	325	488	585	355	315		500 x 1165 x 506/120	350 x 383 x 262/84 [3]
	NXP 0416 6 A 0 N 0 SS A*	416	458	325	488	585	400	315		500 x 1165 x 506/120	350 x 383 x 262/84 [3]
	NXP 0460 6 A 0 N 0 SS A	460	506	385	578	693	450	355	FR 11	709 x 1206 x 506/210	497 x 399 x 244/115 [4]
	NXP 0502 6 A 0 N 0 SS A	502	552	460	690	828	500	450		709 x 1206 x 506/210	497 x 399 x 244/115 [4]
	NXP 0590 6 A 0 N 0 SS A*	590	649	502	753	904	560	500		709 x 1206 x 506/210	2 x (350 x 383 x 262/84)
	NXP 0650 6 A 0 N 0 SS A	650	715	590	885	1062	630	560		2 x (500 x 1165 x 506/120)	2 x (350 x 383 x 262/84)

	NXP 0750 6 A 0 N 0 SS A	750	825	650	975	1170	710	630	FR 12	2 x (500 x 1165 x 506 /120)	2 x (350 x 383 x 262/ 84)
525 -690 V 50/ 60 Hz 3~	NXP 0820 6 A 0 N 0 SS A*	820	902	650	975	1170	800	630		2 x (500 x 1165 x 506 /120)	2 x (350 x 383 x 262/ 84)
	NXP 0920 6 A 0 N 0 SS F	920	1012	820	1230	1410	900	800	FR 13	2 x (239 x 1030 x 372 /67) +1 x (708 x 1030 x 553/302)	2 x (497 x 449 x 249/ 130)
	NXP 1030 6 A 0 N 0 SS F	1030	1133	920	1380	1755	1000	900		2 x (239 x 1030 x 372 /67) +1 x (708 x 1030 x 553/302)	2 x (497 x 449 x 249/ 130)
	NXP 1180 6 A 0 N 0 SS F*	1180	1298	1030	1463	1755	1150	1000		2 x (239 x 1030 x 372 /67) +	2 x (497 x 449 x 249/ 130)
										1 x (708 x 1030 x 553 /302)	
	NXP 1500 6 A 0 N 0 SS	1500	1650	1300	1950	2340	1500	1300		3 x (239 x 1030 x 372 /67) +	3 x (497 x 449 x 249/

	F									2 x (708 x 103 x 553/ 302) [3]	130) [5]
	NXP 1900 6 A 0 N 0 SS F	19 00	20 90	15 00	22 50	27 00	18 00	15 00	FR 14	4 x(239 x 1 030 x 372/ 67) +2 x (7 08 x 1030 x 553/302)	4 x (497 x 449 x 249/ 130)
	NXP 2250 6 A 0 N 0 SS F*	22 50	24 75	19 00	27 82	33 35	20 00	18 00		4 x (239 x 1030 x 372 /67) +	4 x (497 x 449 x 249/ 130)
										2 x (708 x 1030 x 553 /302)	

*Max. ambient temperature of +35°C.

1. 12-pulse units, 2 x (354 x 319 x 230/53 kg)
2. 12-pulse units, 4 x (497 x 449 x 249/130 kg)
3. 12-pulse units, 2 x (354 x 319 x 230/53 kg)
4. 12-pulse units, 4 x (239 x 1030 x 372/67) + 2 x (708 x 1030 x 372/302 kg)
5. 12-pulse units, 4 x (497 x 449 x 249/130 kg)

VACON® NXP standalone

Premium VACON® NXP drives are also available in standalone IP21 or IP54 enclosures. These units are delivered in a compact enclosure, making them perfect for areas with limited space, while still providing full VACON® NXP control flexibility.

Robust and reliable

VACON® NXP standalone drives are fully enclosed at the factory and ready for immediate installation. The drive is ideal for pumps, fans and other single drive applications. The drive has integrated fuses as standard and no extra protection components are required. It is also possible to equip the drive with an optional integrated load switch, which further simplifies handling in the field.

Typical applications

- Auxiliary equipment
- Pump and fans
- Main propulsion and bow thrusters
- Compressors
- Cranes and lifts

Features

- Extremely compact cabinet enclosure
- Delivered with ultra rapid AC fuses
- Optional built-in brake chopper and
- DC-link connectors

Benefits

- Maximize the utilization of available space while reducing the overall costs
- No need to consider any additional protection components

VACON® NXP standalone (FR11)

Hardware configurations

Function	**Availability**
IP21	Standard
IP54 (FR10 only)	Optional (H: +20mm)
Integrated ultra rapid fuses	Standard
Load switch (IEC or UL version)	Optional
EMC filtering L (EN 61800-3, category C3)	Standard
EMC filtering T (for IT -networks)	Optional
Brake chopper (cabling top entry)	Optional(H: +122 mm)

Ratings and dimensions

Mains voltage	AC drive type	Loadability					Motor shaft power		Frame size	Dimensions and weight W x H x D (mm) / kg	
		Low (+40°C)		High (+40°C)			400 V / 690 V				
		Rated continuous current I_L [A]	10% overload current [A]	Rated continuous current I_H [A]	50% overload current [A]	Maximum current I_S [A]	10% overload P [kW]	50% overload P [kW]			
380-500	NXP 0385 5 A 2 L 0 SSA	385	424	300	450	540	200	160	FR1	595 x 2020 x 602/340	

V 50/ 60 Hz 3~	NXP 0460 5 A 2 L 0 SSA	460	506	385	578	693	250	200	0		
	NXP 0520 5 A 2 L 0 SSA*	520	572	460	690	828	250	250			
	NXP 0590 5 A 2 L 0 SSA	590	649	520	780	936	315	250	FR11	794 x 2020 x 602/470	
	NXP 0650 5 A 2 L 0 SSA	650	715	590	885	1062	355	315			
	NXP 0730 5 A 2 L 0 SSA	730	803	650	975	1170	400	355			
525-690 V 50/	NXP 0261 6 A 2 L 0 SSA	261	287	208	312	375	250	200	FR10	595 x 2020 x 602/340	
		325	358	261	392	470	315	250			
	NXP 0325 6 A 2 L 0 SSA	385	424	325	488	585	355	315			
	NXP 0385 6 A 2 L 0 SSA	416	458	325	488	585	400	315			
	NXP 0416 6 A 2 L 0 SSA*										

60 Hz 3~	NXP 0460 6 A 2 L 0 SSA	460	506	385	578	693	450	355	F R 1 1	794 x 2020 x 602/400	
	NXP 0502 6 A 2 L 0 SSA	502	552	460	690	828	500	450		794 x 2020 x 602/400	
	NXP 0590 6 A 2 L 0 SSA*	590	649	502	753	904	560	500		794 x 2020 x 602/470	

*Max. ambient temperature of +35°C.

VACON® NXC

Our VACON® NXC is designed to meet the most demanding requirements for flexibility, robustness, compactness and service-friendliness. It is a safe choice for any application and available in the 160 to 2000 kW power range and 380-500 V, 525-690 V voltage range.

- **Exceptional performance**
  Our enclosed VACON® NXC variable speed AC drives are compact and well tested to meet harsh operating conditions. They are typically put to work in segments, such as mining, oil and gas, water and wastewater. The reliable thermal handling of the enclosure guarantees extended lifetime of the frequency converter and trouble-free operation in tough environments. Approved EMC solutions ensure reliable operation of the converter without disturbing other electrical equipment.


VACON® NXC (FR10)

- **User-friendly**
  VACON® NXC features an easily accessible control compartment for relays, auxiliary terminals and other equipment and ample space around the power terminals allows for easy installation and connection of power cables. Our handy keypad is located on the door with additional door options including indicators, meters and switches. Bottom plates and earthing claps for 360 degree earthing of motor cables are provided as standard.
- **Service-friendly**
  VACON® NXC enclosures are easy to install with lifting lugs for easy handling and can be wall-mounted or free-standing. VACON® NXP power units are rail-mounted for easy pull-out, and the optional pull-out jig enables hassle-free servicing of the power unit. No additional cooling fans are required in the enclosure IP21/IP54 and the fans can be easily replaced without having to remove the power unit.

Typical applications

- Pumps and fans
- Extruders
- Main propulsion and bow thrusters
- Wood handling machines
- Conveyors and crushers
- Feeders and mixers
- Test benches
- Water treatment
- Winches

- Compressors
- Static power supply
- Industrial elevators

Features

- Robust and type-tested design
- Wide range of standard options
- One of the most compact on the market
- Welded Rittal TS8 frame
- EMC approved (EN61800-3, 2nd env.)
- Service concept with pullout jig
- No additional fans in IP54 enclosure

Benefits

- Trouble free installation and operation
- Adapts to your needs w/o engineering
- Easy to fit into small spaces
- Global enclosure availability
- Easy to extend
- Fast service and easy maintenance

Ratings and dimensions

VACON® NXC, 6-pulse supply

		Loadability					Motor shaft power				
		Low (+40°C)		High (+40°C)			400 V / 690 V				
Mains voltage	AC drive type	Rated conti- nuous current I_L [A]	10 % overload current [A]	Rated conti- nuous current I_H [A]	50 % overload current [A]	Maximum current I_S [A]	10 % overload P [kW]	50 % overload P [kW]	Frame size	Dimensions and weight W x H x D (mm) / kg	
	NXC 0261 5 A2 H 0 SSF	261	287	205	308	349	132	110	FR9	606 x 275 x 605/371	
	NXC 0300 5 A2 H 0 SSF	300	330	245	368	444	160	132			
	NXC 0385 5 A2 L 0 SSF	385	424	300	450	540	200	160	F		

	NXC 0460 5 A 2 L 0 SSF	460	506	385	578	693	250	200	R10	606 x 2275 x 605/403	
	NXC 0520 5 A 2 L 0 SSF*	520	572	460	690	828	250	250			
	NXC 0590 5 A 2 L 0 SSF	590	649	520	780	936	315	250			
380-500 V	NXC 0650 5 A 2 L 0 SSF	650	715	590	885	1062	355	315	FR11	806 x 2275 x 605/577	
50/60 Hz 3~	NXC 0730 5 A 2 L 0 SSF	730	803	650	975	1170	400	355			
	NXC 0820 5 A 2 L 0 SSF NXC 0920 5 A 2 L 0 SSF	820 920	902 1012	730 820	1095 1230	1314 1476	450 500	400 450	FR12	1206 x 2275 x 605/810	
	NXC 1030 5 A 2 L 0 SSF	1030	1133	920	1380	1656	560	500			

	NXC 1150 5 A 2 L 0 SSF	1150	1265	1030	1545	1854	630	560		1406 x 2275 x 605/1000	
	NXC 1300 5 A 2 L 0 SSF	1300	1430	1150	1725	2070	710	630	FR13	1606 x 2275 x 605/1150	
	NXC 1450 5 A 2 L 0 SSF	1450	1595	1300	1950	2340	800	710		1606 x 2275 x 605/1150	
	NXC 1770 5 A 2 L 0 SSF	1770	1947	1600	2400	2880	1000	900	FR14	2806 x 2275 x 605/2440	
	NXC 2150 5 A 2 L 0 SSF	2150	2365	1940	2910	3492	1200	1100			
	NXC 0125 6 A 2 L 0 SSF	125	138	100	150	200	110	90	FR9	606 x 2275 x 605/371	
	NXC 0144 6 A 2 L 0 SSF	144	158	125	188	213	132	110			
	NXC 0170 6 A 2 L 0 SSF	170	187	144	216	245	160	132			

	NXC 0208 6 A 2 L 0 SSF	208	229	170	255	289	200	160			
	NXC 0261 6 A 2 L 0 SSF	261	287	208	312	375	250	200			
	NXC 0325 6 A 2 L 0 SSF NXC 0385 6 A 2 L 0 SSF	325 385	358 424	261 325	392 488	470 585	315 355	250 315	FR10	606 x 2 275 x 6 05/371	
	NXC 0416 6 A 2 L 0 SSF*	416	458	325	488	585	400	315			
525-690 V 50/60 Hz	NXC 0460 6 A 2 L 0 SSF	460	506	385	578	693	450	355	FR11	806 x 2 275 x 6 05/524	
	NXC 0502 6 A 2 L 0 SSF	502	552	460	690	828	500	450			
3~	NXC 0590 6 A 2 L 0 SSF*	590	649	502	753	904	560	500		806 x 2 275 x 6 05/577	
	NXC 0650 6 A 2 L 0 SSF	650	715	590	885	1062	630	560			

	NXC 0750 6 A 2 L 0 SSF	750	825	650	975	1170	710	630	FR12	1206 x 2275 x 605/745	
	NXC 0820 6 A 2 L 0 SSF*	820	902	650	975	1170	800	630			
	NXC 0920 6 A 2 L 0 SSF	920	1012	820	1230	1410	900	800	FR13	1406 x 2275 x 605/1000	
	NXC 1030 6 A 2 L 0 SSF	1030	1133	920	1380	1755	1000	900			
	NXC 1180 6 A 2 L 0 SSF*	1180	1298	1030	1463	1755	1150	1000			
	NXC 1500 6 A 2 L 0 SSF	1500	1650	1300	1950	2340	1500	1300	FR14	2406 x 2275 x 605/2350	
	NXC 1900 6 A 2 L 0 SSF	1900	2090	1500	2250	2700	1800	1500		2806 x 2275 x 605/2440	
	NXC 2250 6 A 2 L 0 SSF*	2250	2475	1900	2782	3335	2000	1800		2806 x 2275 x 605/2500	

*Max. ambient temperature of +35°C.

Ratings and dimensions

VACON® NXC, 12 -pulse supply

		Loadability					**Motor shaft power**				
		Low (+40°C)		**High (+40°C)**			**400 V / 690 V**				
Mains voltage	**AC drive type**	**Rated continuous current I_L [A]**	**10% overload current [A]**	**Rated continuous current I_H [A]**	**50% overload current [A]**	**Maximum current I_S [A]**	**10% overload P [kW]**	**50% overload P [kW]**	**Frame size**	**Dimensions and weightW x H x D (mm)/ kg**	
	NXC 0385 5 A 2 L 0 TSF	385	424	300	450	540	200	160		606 x 275 x 605/371	
	NXC 0460 5 A 2 L 0 TSF	460	506	385	578	693	250	200	FR10	606 x 275 x 605/403	

	NXC 052 0 5 A 2 L 0 TSF*	520	572	460	690	828	250	250		606 x 2275 x 605/403	
	NXC 059 0 5 A 2 L 0 TSF	590	649	520	780	936	315	250		806 x 2275 x 605/ 577	
	NXC 065 0 5 A 2 L 0 TSF	650	715	590	885	1062	355	315	FR11	806 x 2275 x 605/577	
380-500 V	NXC 073 0 5 A 2 L 0 TSF	730	803	650	975	1170	400	355		806 x 2275 x 605/577	
50/60 Hz 3~	NXC 082 0 5 A 2 L 0 TSF	820	902	730	1095	1314	450	400	FR12	1206 x 2275 x 605/810	
	NXC 092 0 5 A 2 L 0 TSF	920	1012	820	1230	1476	500	450		1206 x 2275 x 605/810	
	NXC 103 0 5 A 2 L 0 TSF	1030	1133	920	1380	1656	560	500		1206 x 2275 x 605/810	
	NXC 115 0 5 A 2 L 0 TSF	1150	1265	1030	1545	1854	630	560		1406 x 2275 x 605/1000	

	NXC 1300 5 A 2 L 0 TSF	1300	1430	1150	1725	2070	710	630	FR13	2006 x 2275 x 605/1150	
	NXC 1450 5 A 2 L 0 TSF	1450	1595	1300	1950	2340	800	710		2006 x 2275 x 605/1150	
	NXC 1770 5 A 2 L 0 TSF	1770	1947	1600	2400	2880	1000	900	FR14	2806 x 2275 x 605/2440	
	NXC 2150 5 A 2 L 0 TSF	2150	2365	1940	2910	3492	1200	1100		2806 x 2275 x 605/2500	
	NXC 0261 6 A 2 L 0 TSF	261	287	208	312	375	250	200	FR10	606 x 2275 x 605/341	
	NXC 0325 6 A 2 L 0 TSF	325	358	261	392	470	315	250		606 x 2275 x 605/371	
	NXC 0385 6 A 2 L 0 TSF	385	424	325	488	585	355	315		606 x 2275 x 605/371	
	NXC 0416 6 A 2 L 0 TSF*	416	458	325	488	585	400	315		606 x 2275 x 605/403	

525-690 V50/60 Hz3~	NXC 0460 6 A 2 L 0 TSF	460	506	385	578	693	450	355	FR11	806 x 2275 x 605/524	
	NXC 0502 6 A 2 L 0 TSF	502	552	460	690	828	500	450		806 x 2275 x 605/524	
	NXC 0590 6 A 2 L 0 TSF*	590	649	502	753	904	560	500		806 x 2275 x 605/577	
	NXC 0650 6 A 2 L 0 TSF	650	715	590	885	1062	630	560	FR12	1206 x 2275 x 605/745	
	NXC 0750 6 A 2 L 0 TSF	750	825	650	975	1170	710	630		1206 x 2275 x 605/745	
	NXC 0820 6 A 2 L 0 TSF*	820	902	650	975	1170	800	630		1206 x 2275 x 605/745	
	NXC 0920 6 A 2 L 0 TSF	920	1012	820	1230	1410	900	800	FR13	1406 x 2275 x 605/1000	
	NXC 1030 6 A 2 L 0 TSF	1030	1133	920	1380	1755	1000	900		1406 x 2275 x 605/1000	

	NXC 1180 6 A 2 L 0 TSF*	1180	1298	1030	1463	1755	1150	1000		1406 x 2275 x 605/1000	
	NXC 1500 6 A 2 L 0 TSF	1500	1650	1300	1950	2340	1500	1300	FR14	2806 x 2275 x 605/2440	
	NXC 1900 6 A 2 L 0 TSF	1900	2090	1500	2250	2700	1800	1500		2806 x 2275 x 605/2440	
	NXC 2250 6 A 2 L 0 TSF*	2250	2475	1900	2782	3335	2000	1800		2806 x 2275 x 605/2500	

*Max. ambient temperature of +35°C.

Hardware configurations, 6-pulse supply

6-pulse	Enclosure	EMC	Brake chopper	Cabling	Input device	Output filters

380-500V	**IP21**	**IP54**	**L**	**T**	**H**		**Bottom**	**Top +CIT/+COT**	**+IFU**	**+ILS**	**+IFD**	**+ICO**	**+ICB**	**+OCM/ +OCH**	**+ODU**	**+OSI**
FR9	S	O (H: +130)	S	O	–	O	S	O (W: +400)	O	O	O	O	O	O	O	O (W: +600)
FR10	S	O (H: +130)	S	O	–	O	S	O (W: +400)	O	O	O	O	O	O	O (W: +400)	O (W: +600)
FR11	S	O (H: +130)*	S	O	–	O	S	O (W: +400)	O	O	O	O	O	O	O (W: +400)	O (W: +600-800)
FR12	S	O (H: +130)	S	O	–	O	S	O (W: +400)	O	O	O	O	O	O	O (W: +400)	O (W: +1200)
FR13	S	O (H: +170)	S	O	–	1	S	O (W: +400)	–	–	S	–	O	O	O	O (W: +800)

FR 14	S	O (H: +170)	S	O	–	1	S	O (W: +600)	–	–	–	–	S	O	S	O (W: +1600)
500-690 V																
FR 9	S	O (H: +130)	S	O	–	O	S	O (W: +400)	O	O	O	O	O	O	O	O (W: +600)
FR 10	S	O (H: +130)	S	O	–	O	S	O (W: +400)	O	O	O	O	O	O	O (W: +400)	O (W: +600)
FR 11	S	O (H: +130)*	S	O	–	O	S	O (W: +400)	O	O	O	O	O	O	O (W: +400)	O (W: +600-800)
FR 12	S	O (H: +130)	S	O	–	O	S	O (W: +400)	O	O	O	O	O	O	O (W: +400)	O (W: +1200)
FR 13	S	O (H: +170)	S	O	–	1	S	O (W: +400)	–	–	S	–	O	O	O	O (W: +800)
FR 14	S	O (H: +170)	S	O	–	1	S	O (W: +600)	–	–	–	–	S	O	S	O (W: +1600)

S = Standard O = Optional

1)(W: +400) = Contact factory*NXC07305 and NXC05906, H: +170 mm

Hardware configurations, 12-pulse supply

12-pulse	Enclosure		EMC			Brake chopper	Cabling		Input device					Output filters		
380-500V	IP21	IP54	L	T	H		Bottom	Top +CIT/+COT	+IFU	+ILS	+IFD	+ICO	+ICB	+OCM/+OCH	+ODU	+OSI
FR10	S	O (H: +130)	S	O	–	–	S	O (W: +400)	O	–	–	–	O	O	O (W: +400)	O (W: +600)
FR11	S	O (H: +130)*	S	O	–	O	S	O (W: +400)	O	O	O	O	O	O	O (W: +400)	O (W: +600)

FR 12	S	O (H: +130)	S	O	–	O	S	O (W: +400)	O	O	O	O	O	O	O (W: +400)	O (W: +1200)
FR 13	S	O (H: +170)	S	O	–	1	S	O (W: +400)	–	–	–	–	S	O	O	O (W: +800)
FR 14	S	O (H: +170)	S	O	–	1	S	O (W: +800)	–	–	–	–	S	O	S	O (W: +1600)
500-690 V																
FR 10	S	O (H: +130)	S	O	–	–	S	O (W: +400)	O	–	–	–	O	O	O (W: +400)	O (W: +600)
FR 11	S	O (H: +130)*	S	O	–	O	S	O (W: +400)	O	O	O	O	O	O	O (W: +400)	O (W: +600-800)
FR 12	S	O (H: +130)	S	O	–	O	S	O (W: +400)	O	O	O	O	O	O	O (W: +400)	O (W: +1200)
FR 13	S	O (H: +170)	S	O	–	1	S	O (W: +400)	–	–	–	–	S	O	O	O (W: +800)

S = Standard O = Optional

1)(W: +400) = Contact factory

*NXC07305 and NXC05906, H: +170 mm

Pure performance

Rising energy prices, environmental legislation and process improvement are key issues when designing water handling systems. Use of VACON® AC drives for flow and pressure control instead of dampers or valves gives substantial energy savings resulting in quick ROI.

VACON® NXC Low Harmonic

The VACON® NXC Low Harmonic drive is the perfect choice for applications where low harmonics are required. This drive not only meets the most demanding requirements for clean power but also provides other important benefits such as regenerative braking and voltage boost for maximum output power.

Clean power saves money

The low harmonic cabinet drive offers an excellent total solution to meet even the most demanding power quality requirements. The drive also complies with the IEEE-519, G5/4 harmonic standards. The low THDi reduces supply currents and allows supply transformers, protection devices and power cables to be dimensioned according to the actual active power. It creates savings for both new and retrofit projects as there’s no need to invest in expensive 12- or 18-pulse transformers.

Typical applications

- Pumps and fans
- Water treatment
- Thrusters and main propulsion
- Crushers and conveyors and mills
- Industrial elevators
- Test benches
- Sugar refineries

Features

- Clean power with total current harmonics THDi < 5 %
- Over-dimensioning of power transformer or input cables is not required
- Regenerative function available
- Reducing system complexity
- No need for special 12-pulse transformers
- Well-suited for retrofit projects
- Increased flexibility with a wide range of standard options

VACON® NXC LowHarmonic (AF10)

Benefits

- Over-dimensioning of input components is not needed, reducing the total costs
- Voltage boost function for maximum output power
- Braking energy can be fed back to network saving energy costs
- Reduces overall investment costs and optimizes the use of available space

Ratings and dimensions

Mains voltage	Low harmonic drive type	Loadability				Maximum current I_S [A]	Motor shaft power		Frame size	Dimensions and weightW x H x D (mm)/ kg	
		Low (+40°C)		High (+40°C)			400 V / 690 V				
		Rated continuous current I_L [A]	10% overload current [A]	Rated continuous current I_H [A]	50% overload current [A]		10% overload P [kW]	50% overload P [kW]			
	NXC 0261 5 A 2 L 0 RSF	261	287	205	308	349	132	110	AF9	1006 x 2275 x 605/680	

380-500 V50/60 Hz	NXC 0300 5 A 2 L 0 RSF	300	330	245	368	444	160	132			
	NXC 0385 5 A 2 L 0 RSF	385	424	300	450	540	200	160	AF10	1006 x 2275 x 605/700	
	NXC 0460 5 A 2 L 0 RSF	460	506	385	578	693	250	200			
	NXC 0520 5 A 2 L 0 RSF*	520	572	460	690	828	250	250			
	NXC 0650 5 A 2 L 0 RSF	650	715	590	885	1062	355	315	AF12	2006 x 2275 x 605/1400	
	NXC 0730 5 A 2 L 0 RSF	730	803	650	975	1170	400	355			
	NXC 0820 5 A 2 L 0 RSF	820	902	730	1095	1314	450	400			
	NXC 0920 5 A 2 L 0 RSF	920	1012	820	1230	1476	500	450			

	NXC 1030 5 A 2 L 0 RSFNXC 1150 5 A 2 L 0 RSFNXC 1300 5 A 2 L 0 RSFNXC 1450 5 A 2 L 0 RSFNXC 1770 5 A 2 L 0 RSF	10301150130014501770	11331265143015951947	9201030115013001600	13801545172519502400	16561854207023402880	5606307108001000	500560630710900	AF13	2206 x 2275 x 605/1950	
	NXC 2150 5 A 2 L 0 RSF	2150	2365	1940	2910	3492	1200	1100	AF14	4406 x 2275 x 605/3900	
	NXC 2700 5 A 2 L 0 RSFNXC 0125 6 A 2 L 0 RSFNXC 0144 6 A	27001251	29701381	23001001	32781501	39332002	15001101	12009011	A	1006 x	

	2 L 0 RS FNXC 01 70 6 A 2 L 0 RSF NXC 020 8 6 A 2 L 0 RSF*	44 17 02 08	58 18 72 29	25 14 41 70	88 21 62 55	13 24 52 89	32 16 02 00	01 32 16 0	F 9	2275 x 605/680	
	NXC 026 1 6 A 2 L 0 RSF	26 1	28 7	20 8	31 2	37 5	25 0	20 0	A F 1 0	1006 x 2275 x 605/700	
	NXC 032 5 6 A 2 L 0 RSF	32 5	35 8	26 1	39 2	47 0	31 5	25 0			
	NXC 038 5 6 A 2 L 0 RSF	38 5	42 4	32 5	48 8	58 5	35 5	31 5			

525-690V50/60Hz	NXC 0416 6 A 2 L 0 RSF*NXC 0460 6 A 2 L 0 RSFNXC 0502 6 A 2 L 0 RSFNXC 0590 6 A 2 L 0 RSF NXC 0650 6 A 2 L 0 RSFNXC 0750 6 A 2 L 0 RSFNXC 0820 6 A 2 L 0 RSF*	416460502590650750820	416506552649715825902	325385460502590650650	488578690753885975975	585693828904106211701170	400450500560630710750	315355450500560630650	AF12	2006 x 2275 x 605/1400	
	NXC 0920 6 A 2 L 0 RSF	920	1012	820	1230	1476	900	800	AF13	2206 x 2275 x 605/1950	
	NXC 1030 6 A 2 L 0 RSF	1030	1133	920	1380	1656	1000	900			
	NXC 1180 6 A 2 L 0 RSF*	1180	1298	1030	1463	1755	1150	1000			

	NXC 1500 6 A 2 L 0 RSF	1500	1650	1300	1950	2340	1500	1300	AF14	4406 x 2275 x 605/3900	
	NXC 1900 6 A 2 L 0 RSF	1900	2090	1500	2250	2700	1800	1500			
	NXC 2250 6 A 2 L 0 RSF*	2250	2475	1900	2782	3335	2000	1800			

*Max. ambient temperature of +35°C.

Hardware configurations

Active front-end	**Enclosure**		**EMC**		**Brake chopper**	**Cabling**		**Input device**	**Output filters**		
380-500 V	**IP21**	**IP54**	**L**	**T**		**Bottom**	**Top+CIT/+COT**	**+ILS & +ICB**	**+OCM/+OCH**	**+ODU**	**+OSI**
AF9	S	O (H: +130)	S	O	* (W: +400)	S	O (W: +400)	S	O	O (W: +400)	O (W: +600)
AF10	S	O (H: +130)	S	O	* (W: +400)	S	O (W: +400)	S	O	O (W: +400)	O (W: +600)
AF12	S	O (H: +130)	S	O	* (W: +400)	S	O (W: +400)	S	O	O (W: +400)	O (W: +1200)
AF13	S	O (H: +170)	S	O	* (W: +400)	S	O (W: +400)	S	O	O	O (W: +800)

AF14	S	O (H: +170)	S	O	* (W: +400)	S	O (W: +600)	S	O	S	O (W: +1600)
525-690 V											
AF9	S	O (H: +130)	S	O	* (W: +400)	S	O (W: +400)	S	O	O (W: +400)	O (W: +600)
AF10	S	O (H: +130)	S	O	* (W: +400)	S	O (W: +400)	S	O	O (W: +400)	O (W: +600)
AF12	S	O (H: +130)	S	O	* (W: +400)	S	O (W: +400)	S	O	O (W: +400)	O (W: +1200)
AF13	S	O (H: +170)	S	O	* z(W: +400)	S	O (W: +400)	S	O	O	O (W: +800)
AF14	S	O (H: +170)	S	O	* (W: +400)	S	O (W: +600)	S	O	S	O (W: +1600)

S = Standard O = Optional *Contact factory

Technical data

Mains connection	Input voltage U_{in}	208…240 V; 380…500 V; 525…690 V; –10%…+10%
	Input frequency	45…66 Hz
	Connection to mains	Once per minute or less (normal case)
Motor connection	Output voltage	0 – U_{in}
	Continuous output current	High overloadability: IH, ambient temperature max. +50 °C (≥FR10 + 40 °C) Low overloadability: IL, ambient temperature max. +40 °C
	Overloadability	High: 1.5 x IH (1 min/10 min), Low: 1.1 x IL (1 min/10 min)
	Max. starting current	Is for 2 s every 20 s
	Output frequency	0…320 Hz
Control characteristics	Control performance	Open loop vector control (5-150% of base speed): speed control 0.5%, dynamic 0.3%sec, torque lin. <2%, torque rise time ~5 ms Closed loop vector control (entire speed range): speed control 0.01%, dynamic 0.2% sec, torque lin. <2%, torque rise time ~2 ms
	Switching frequency	NX_2/ NX_5: Up to and including NX_0061: 1…16 kHz; Factory default 10 kHz NX_6: From NX_0072: 1…6 kHz; Factory default 3.6 kHz 1…6 kHz; Factory default 1.5 kHz
	Field weakening point	8…320 Hz
	Acceleration time	0…3000 sec
	Deceleration time	0…3000 sec
	Braking	DC brake: 30% of TN (without brake resistor), flux braking
Ambient conditions	Ambient operating temperature	–10 °C (no frost)…+50 °C: IH (≥FR10 + 40 °C) –10 °C (no frost)…+40 °C: IL
	Storage temperature	–40 °C…+70 °C
	Relative humidity	0 to 95% RH, non-condensing, non-corrosive, no dripping water
	Air quality: – chemical vapours – mechanical particles	IEC 60721-3-3, unit in operation, class 3C2 (tested in accordance with IEC60068-2-60, Method I C CH_2 and SO_2) IEC 60721-3-3, unit in operation, class 3S2
	Altitude	100% load capacity (no derating) up to 1000 m 1% derating for each 100 m above 1000 m; max. 3000 m (690 V max. 2000 m)
	Vibration EN 50178/EN 60068-2-6	5…150 Hz: Displacement amplitude 1 mm (peak) at 5…15.8 Hz (≥FR10: 0.25 mm (peak) at 5…31 Hz) Max acceleration amplitude 1 G at 15.8…150 Hz (≥FR10: 1 G at 31…150 Hz)
	Shock EN 50178, EN 60068-2-27	UPS Drop Test (for applicable UPS weights) Storage and shipping: max 15 G, 11 ms (in package)
EMC	Immunity	Fulfils all EMC immunity requirements
	Emissions	EMC level C: EN 61800-3, category C1 EMC level H: EN 61800-3, category C2 EMC level L: EN 61800-3, category C3 EMC level T: Low earth-current solution is suitable for IT networks, (can be modified from L/H-level units)
Safety		EN 50178, EN 60204-1, IEC 61800-5-1, CE, UL, CUL; (see unit nameplate for more details)
Functional safety *	STO	EN/IEC 61800-5-2 Safe Torque Off (STO) SIL2, EN ISO 13849-1 PL"d" Category 3, EN 62061: SILCL2, IEC 61508: SIL2
	SS1	EN /IEC 61800-5-2 Safe Stop 1 (SS1) SIL2, EN ISO 13849-1 PL"d" Category 3, EN /IEC62061: SILCL2, IEC 61508: SIL2.
	ATEX Thermistor input	94/9/EC, CE 0537 Ex 11 (2) GD
	Advance safety option	STO (+SBC),SS1,SS2, SOS,SLS,SMS,SSM,SSR
Control connections (OPT-A1, -A2 or OPT-A1, -A3)	Analogue input voltage	0…+10 V (–10 V…+10 V joystick control), Ri = 200 kΩ, resolution 0.1%, accuracy ±1%
	Analogue input current	0(4)…20 mA, Ri = 250 Ω differential, resolution 0.1%, accuracy ±1%
	Digital inputs	6, positive or negative logic; 18…30 VDC
	Auxiliary voltage	+24 V, ±15%, max. 250 mA
	Output reference voltage	+10 V, +3%, max. load 10 mA
	Analogue output	0 (4)…20 mA; RL max. 500 Ω, resolution 10 bit, accuracy ±2%
	Digital output	Open collector output, 50 mA/48 V
	Relay outputs	2 programmable change-over (NO/NC) relay outputs (OPT-A3: NO/NC+NO) Switching capacity: 24 VDC/8 A, 250 VAC/8 A, 125 VDC/0.4 A. Min. switching load: 5 V/10 mA
	Thermistor input (OPT-A3)	Galvanically isolated, Rtrip = 4.7 kΩ
Protections		Overvoltage, undervoltage, earth fault, mains supervision, motor phase supervision, overcurrent, unit overtemperature, motor overload, motor stall, motor underload, short-circuit of +24 V and +10 V reference voltages

Option boards

Type	Description	Card slot					I / O signal														
		A	B	C	D	E	DI	DO	DI DO	AI (mA/V/±V)	AI (mA) isolated	AO (mA/V)	AO (mA) isolated	RO (NO/NC)	RO (NO)	+10V ref	Therm	+24V/EXT+24V	pt100	KTY84	42-240VAC input
Basic I/O cards (OPTA)																					

OPTA1	DI/DO/AI/AO/10V/24V						6	1		2		1				1		2		
OPTA2	Relay output (NO/NC)													2						

OPTA3	Relay output + Thermistor input												1	1		1					
OPTA4	Encoder TTL type				2																

OPTA5	Encoder HTL type						2														
OPTA7	Double encoder HTL type																				
	“OP																				

OPTA8	TA1+Analogue signals galvanically isolated ass agro							6	1		2		1				1		2					

	up”																			
OPTA9	OPTA1+2,5mm2connectors					6	1		2		1				1		2			

OPTAE	EncoderHTLtype(Divider+direction)						2													

OPTAF	STO, ATEXtherm					2						1	1		1				
OPTAK	Sin/Cosencoderinterface																		

OPTAN	DI/AI/AO						6			2		2								
I/O expander cards (OPTB)																				
OPTB1	Programmable I/O								6									1		

OPTB2	Relay output + Thermistor input													1	1		1				
	“Analog input/output An																				

OPTB4	analogue signals galvanically isolated separately”											1		2					1			

OPTB5	Relay output														3						

OPTB8	“Temperature Measurement option PT1000”																	1	3		

OPTB9	DI + Relay output						2								1						5
OPTB	“Temperature Measurement option pt																		3	3	

H	100,pt1000,Ni1000,KTY84”																				
OPTBB	EnDat+Sin/Cos1Vp-p						2														

OPTBC	Resolver, 3 x DO (Wide range)																				
OPTBE	EnDat/SSI/BiSSC																				

OPTBL	Advanced safety option						4	2										1			

OPTBM	OPTBL+HTL/TTL encoder						4	2										1			

OPTBN	OPTBL+Sin/Cosencoder						4	2										1				
Fieldbus cards (OPTC and OPTE)*																						

OPTE2	RS485 with screw terminal						RS485 with screw terminal

OPTE3	PROFIBUS DP with screw terminal						PROFIBUS DP with screw terminal

OPTE5	PROFIBUS Dwith D9-connector						PROFIBUS DP with D9-connector
OPTE6	CANopen						CANopen

OPTE7	DeviceNet						DeviceNet
OPTE8	RS485 with D9-connector						RS485 with D9-connector

OPTE9	Dual-port Ethernet						Dual-port Ethernet
OPTEA	Advanced Dual-port Ethernet						Advanced Dual-port Ethernet

OPTC2	RS485 with screw terminal						RS485 with screw terminal

OPTC3	PROFIBUS DP with screw terminal						PROFIBUS DP with screw terminal
OPTC4	LonWorks						LonWorks

OPTC5	PROFIBUS with D9-connector						PROFIBUS DP with D9-connector
OPTC6	CANopen						CANopen

OPTC7	DeviceNet						DeviceNet
OPTC8	RS485 with D9-connector						RS485 with D9-connector

OPTCI	Modbus/TCP						Modbus TCP
OPTCJ	BACnet MS/TP						BACnet MS/TP
OPTCP	PROFINET IO						PROFINET IO

OPTCQ	EtherNet/IP						EtherNet/IP
Communication cards (OPTD)							
OPT-D1	SystemBus adapt, 2 x fibre-optic						System Bus adapter (2 x fiber optic pairs)

OPT-D2	System Bus (1 xfiber), isol. CAN					System Bus adapter (1 x fiber optic pair) & CAN-bus adapter	

OPT-D3	RS232 adapter (no galv.isol.)					RS232 adapter card (galvanically decoupled), used mainly for connect another keypad

OPT-D6	CAN-Bus (galv. decoupled)					CAN-bus adapter (galvanically decoupled)

OPT-D7	Line voltage measurement						Line voltage measurement

*) OPTE series fieldbus cards provide most recent features on market and they are recommended for new installation

1. Analogue signals galvanically isolated as a group
2. Analogue signals galvanically isolated separately

VACON® NXC options

Control terminal options (T group)	
+TIO	Basic I/O wired to external single-tier terminals
+TID	Basic I/O wired to external two-tier terminals + additional terminals

+TUP*	Terminals for 230 VAC control voltage
Input device options (I group)	
+ILS*	Load switch
+IFD	Switch fuse and fuses
+ICB*	Circuit breaker
+ICO	Input contactor
+IFU	Input fuses
Main circuit options (M group)	
+MDC	Terminals in cabinet for DC / brake chopper
Output filter options (O group)	
+OCM	Common mode filters
+OCH	Common mode filters with output terminals
+ODU	du/dt filter
+OSI	Sine wave filter
Protection devices (P group)	
+PTR	External thermistor relay
+PES	Emergency stop (cat 0)
+PED	Emergency stop (cat 1)
+PAP	Arc protection
+PIF	Insulation fault sensor
General options	

+G40	400 mm empty cabinet
+G60	600 mm empty cabinet
+G80	800 mm empty cabinet
+GPL	100 mm base
+GPH	200 mm base
+FAT	Factory acceptance tests
+MAR	Marine construction
+SWP	Seaworthy packing

Cabling options (C group)	
+CIT	Input (mains) cabling from top
+COT	Output (motor) cabling from top
Auxiliary equipment (A group)	
+AMF	Motor fan control
+AMH	Motor heater feeder
+AMB	Mechanical brake control
+AMO*	Motor operator for +ICB
+ACH	Cabinet heater
+ACL	Cabinet light
+ACR	Control relay
+AAI	Analogue signal isolator

+AAA	Auxiliary contact (control voltage devices)
+AAC	Auxiliary contact (input device)
+AT1	Auxiliary voltage transformer 200 VA
+AT2*	Auxiliary voltage transformer 750 VA
+AT3	Auxiliary voltage transformer 2500 VA
+AT4	Auxiliary voltage transformer 4000 VA
+ADC*	Power supply 24 VDC 2.5 A
+ACS	230 VAC customer socket
Door-mounted options (D group)	
+DLV	Pilot light (Control voltage on)
+DLD	Pilot light (DO1)
+DLF	Pilot light (FLT)
+DLR	Pilot light (RUN)
+DCO*	Main contactor operation switch
+DRO*	Local / Remote operation switch
+DEP	Emergency stop push-button
+DRP	Reset push-button
+DAM	Analogue meter (AO1)
+DAR	Potentiometer for reference
+DCM	Analogue meter & current transformer
+DVM	Analogue voltage meter with selection switch

EMC selection table

VACON® NXP EMC	Hospital	Residential Area	Commercial	Light Industry Area	Heavy Industry	Marine
C (Category C1)	O					
H (Category C2)	R	R	R	O	O	
L (Category C3)				R	R	
T (Category C4)					R (IT)	R (IT)

The product family standard

EN 61800-3 sets limits for both emissions and immunity to radio frequency disturbances. The environment has been divided into the first and second environments; in practice, public and industrial networks, respectively. Radio Frequency Interference (RFI) filters are typically required to meet the EN 61800-3 standard. These filters are integrated in the VACON® NXP as standard. The 208-240 V and 380 500 V ranges of the VACON® NXP (FR4-FR9) meet the requirements of the first and second environments (H level: EN 61800-3 (2004), category C2). No additional RFI filters or cabinets are required. The FR10-FR14 and the 500-690 V ranges of the VACON® NXP meet the requirements of the second environment (L-level: EN 61800-3(2004), category C3). The units in the frame sizes FR4, FR5 and FR6 (with a voltage range from 380 to 500 V) are also available with extremely low-emission integrated EMC filters (C level: EN 61800-3 (2004), category C1). This is sometimes required in very sensitive locations, such as hospitals.

Type code key

NXC 0520 5 A 2 L O S S F A1 A2 00 00 00 + IFD

- NXC Product Range
- NXP = Wall-mounted / standalone / module
- NXC = Cabinet
- 0520 Nominal current voltage

- 0520 = 520 A
- 5 Nominal mains voltage
- 2 = 208-240 V
- 5 = 380-500 V
- 6 = 525-690 V
- A Control keypad
- A = Standard alphanumeric
- B = No local keypad
- F = Dummy keypad
- G = Graphic display
- 2 Enclosure class
- 5 = IP54, FR4-10; NXC FR9-FR14; AF9-14
- 2 = IP21, FR4-11; NXC FR9-FR14; AF9-14
- 0 = IP00, NXP FR10-14
- L EMC emission levels
- C = Category C1, EN 61800-3
- H = Category C2, EN 61800-3
- L = Category C3, EN 61800-3
- T = For IT networks
- N = Enclosure required (FR10-FR14) 0 Brake chopper 0 = No brake chopper 1 = Integrated brake chopper S Supply S = 6-pulse
- T = 12-pulse
  O = 6-pulse + load switch (standalone)
- R = Low Harmonic S Cooling
- S = standard air-cooled
- T = through-hole mounting FR4-FR9
- F Control
- S = Standard FR4-FR8
- F = Standard FR9 and NXC
- A = Standard NXP FR10-FR12
- N = Standard IP00 FR10 & NXC with IP54 control unit enclosure
- V = As S, but varnished
- G = As F, but varnished boards
- O = As N, but varnished boards

- B = As A, but varnished boards
- A1 Option boards; each slot is represented by two characters:
- Ax = Basic I/O boards,
- Bx = Expander I/O boards
- Cx = Fieldbus boards,
- Dx = Special boards A2 00 00 00 + IFD NXC options, see tables page 22

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- Material Handling
- Mining and Minerals
- Oil and Gas
- Packaging
- Pulp and Paper
- Refrigeration
- Water and Wastewater
- Wind

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in the drives business. In 2014, Vacon and Danfoss merged, forming one of the largest companies in the industry. Our AC drives can adapt to any motor technology and we supply products in a power range from 0.18 kW to 5.3 MW.

Frequently Asked Questions

- **Q: What industries can benefit from this product?**
  A: This product is ideal for industries such as mining, compressors, marine, cranes, metals, chemical, water treatment, oil & gas, pulp & paper, cement, and general process industries.
- **Q: How can I access support for this product?**
  A: Danfoss Drives provides global service solutions available 24/7 to assist original

equipment manufacturers (OEMs), system integrators, distributors, and end users throughout the product lifecycle.

Documents / Resources

	Danfoss VACON NXP and VACON NXC AC Drives [pdf] User Guide 0.55 kW, 2 MW, VACON NXP and VACON NXC AC Drives, and VACON NXC AC Drives, NXC AC Drives, AC Drives

References

- User Manual

Related Posts

Danfoss 000101 Vacon NXP Liquid Cooled Instruction Manual

000101 Vacon NXP Liquid Cooled

Danfoss AN418134732303en VACON NXP Air Cooled Installation Guide

AN418134732303en VACON NXP Air Cooled Installation Guide VACON® NX LCL Filter Lifting Instructions 1 Lifting Instructions 1.1 Safety…

Danfoss VACON 20 X AC Drives User Guide

Danfoss VACON 20 X AC Drives User Guide THE TECHNICAL DATA OF THE VACON® 20 X AC DRIVE…

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