VACON®

DRIVEN BY DRIVES

VACON® 100 FLOW

INTELLIGENT PROCESS CONTROL

TAKING CARE OF THE ESSENTIALS

The Water & Wastewater and Building Automation industries are two key ingredients in our everyday lives and yet so often go unnoticed. In fact, the only time most people become aware of them is when a problem arises somewhere along the line. VACON® 100 FLOW is designed to ensure pump and fan solutions control air- and waterflow quietly and effectively.

EXPERTISE IN THE FIELD

VACON® 100 FLOW builds on a long and illustrious track record in the industry. Vacon has produced a number of significant innovations ever since the company's founding in 1993. 1995 saw us introduce a Multipump application, which has since been updated to include autochange. VACON 100 FLOW further develops Multimaster technology, first introduced in 2002, to provide functionalities that significantly extend flow systems' lifecycle and operational costs. VACON® AC Drives are typically able to reduce energy costs by as much as 30% in pump and fan applications, usually offering a return on investment within a year of purchase compared to conventional control schemes.

GOING WITH THE FLOW

Pumps and fans control the flow of water and air through the pipes, vents and waterways that are often out of sight, and yet remain central to our lives. Like in so many industrial processes, AC drives optimize these systems and make sure that processes use as little energy as possible. Pumping process water, cooling water and other fluids usually requires that pressure remains constant despite varying demand. VACON 100 FLOW comes equipped with a number of innovative functions that ensure you achieve this.

24/7 SERVICE AND SUPPORT

When it comes to flow control processes, it's critical for systems to run smoothly at all times. Since Vacon is the world's leading company that's whole focus is on AC drive solutions, it's only right that our aftermarket product care is second to none. We offer services that ensure products remain effective for as long as possible, so that repairs and downtime are kept to the bare minimum.

INTELLIGENT PROCESS CONTROL

VACON® 100 FLOW is an AC drive dedicated to improving flow control in Water & Wastewater and Building Automation applications. It combines the core functionality of VACON® 100 with dedicated functions that are specifically designed with flow control application processes in mind. VACON 100 FLOW is available in a number of frame sizes with either IP21/UL Type 1 or IP54/UL Type 12 approved enclosures. It has a power range of 0.55 kW/0.75 HP to 160 kW/250 HP and a voltage range of 230 V to 500 V.

DEDICATED FUNCTIONALITY

VACON 100 FLOW places an emphasis on user-friendliness and functionalities created for use in pump & fan applications. We have used our extensive experience in the field to handpick all the features that are best suited to the application requirements and putting them in one dedicated product. For instance, PID control, which comes as standard eliminates the need for an external controller, with a built-in pressure/flow controller that uses a sensor to ensure the drive will run at the correct speed. This is useful when reacting to fluctuations in demand.

APPLICATION MENUS FOR WATER AND HVAC

A StartUp Wizard and Quick Setup mode make it easy for users to select the relevant parameters and monitoring values. Unique application menus guide the user through a quick and easy installation and commissioning, with all the relevant parameters presented to them without the need to navigate a long list of parameters. StartUp Wizard and Quick Setup mode can be activated either through the detachable keypad, or by using VACON® Live, Vacon's online PC programming tool for AC drives.

CONNECT TO YOUR CONTROL SYSTEM

Vacon equips its standard AC drives with built-in Ethernet, and VACON 100 FLOW is no different in this respect. This feature means that no additional options or gateways are needed to communicate with process automation. It also provides access for commissioning and maintenance through VACON Live and makes local or remote monitoring possible.

BUILT TO LAST WITHOUT INTERRUPTION

Unplanned downtime is a problem for all applications, not least pump and fan systems, which is why it is important that components have as long a lifecycle as possible. VACON 100 FLOW uses electrolytic-free DC link technology which guarantees users the longest possible lifecycle and availability. By avoiding the need to replace electrolytic capacitors — that often wear out over time — interruptions and costs are kept to a minimum.

EASY TO OPERATE

USER FRIENDLY KEYPAD

Vacon has ensured that the user interface is simple and intuitive to use. You will enjoy the keypad's well-structured menu system which allows for fast commissioning and trouble-free operation.

- Graphical and text keypad with multiple language support
- 9 signals can be monitored at the same time on a single multimonitor page is configurable to either 4, 6 or 9 signals
- 3 color LED status indicator on the control unit: **blinking green** = ready; **green** = run; **red** = fault
- Trend display for two signals at the same time

QUICK SET UP

Easy commissioning tools ensure a hassle-free set up whatever the application. Easy diagnostic with help in plain text is provided for each parameter, signal and fault.

Startup Wizard — for fast setup of basic pump or fan applications
PID Mini-Wizard — for easy commissioning of internal PID Controller
Multipump Wizard — for easy commissioning of Multipump system
Fire Mode Wizard — for easy commissioning of Fire Mode function

VACON 100® FLOW also features a real time clock with calendar based functions.

EASY INSTALLATION

- Both IP21/UL Type 1 and IP54/UL Type 12 units have the same footprint. Compact IP54/UL Type 12 units can be installed side-by-side to save a space.
- Frame sizes MR8 and MR9 are also available as IP00/UL Open Type for cabinet installation
- Flange mounting option for throughhole mounting, reducing heat loss and enclosure size
- Integrated lead-in grommets and 360 degree grounding simplify both the IP54/UL Type 12 and EMC and lead to further cost savings.

DRIVE CUSTOMIZER

- Built-in functionality enables drive to adapt to functions requiring I/O and control logic
- Wide array of logical and numerical function which ensure specific user requirements are met
- No need for special tools or training
- Fully graphically configurable using VACON® Live

EASY TO INTEGRATE

FIELDBUS OPTIONS

- Easy integration with plant automation system using built-in Modbus RTU (RS485) or Modbus TCP (Ethernet)
- Integration over Profinet IO or Ethernet IP systems through software options
- Click-in fieldbus options facilitate integration to traditional systems using Profibus DP, DeviceNet, CANopen & LonWorks
  - Ensures increased control and monitoring with reduced cabling

Modbus TCP, Ethernet IP, Profinet IO, Modbus RTU, Profibus DP, DeviceNet, LonWorks, CANOpen, BACnet MSTP, BACnet IP, Metasys N2

BUILT-IN ETHERNET

- No additional options or gateways needed
- Access provided for commissioning and maintenance through VACON® Live
- Local or remote monitoring possible

SAFE TORQUE OFF, ATEX THERMISTOR INPUT

- STO prevents drive from generating torque on the motor shaft or unintentional start-ups
  - In accordance with stop category 0, EN60204-1
- Eliminates separate components and the need to wire and service them
- Certified and compliant with European ATEX directive, 94/9/EC for temperature supervision of motors that are placed in potentially hazardous areas

VACON® SAVE

VACON Save is a savings calculator for pump, fan and compressor applications which can be used to estimate cost and energy reductions. It's a great tool for customers who are looking to work out the best and most economical pump and fan solution.

MULTIPUMP CONTROL SOLUTIONS

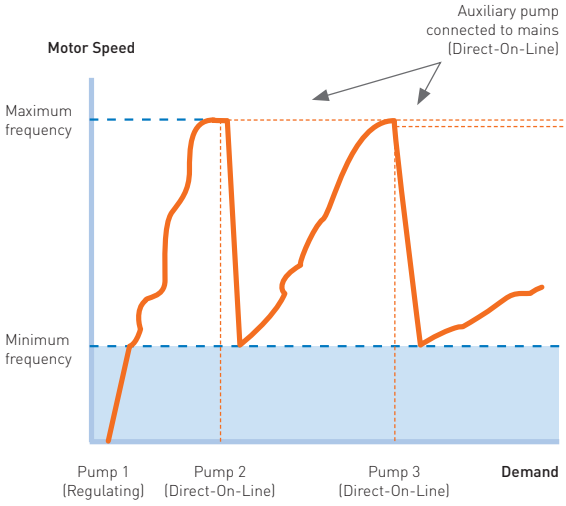
Vacon has 20 years of innovations with pump and fan solutions to work with, including pump and fan solutions which ensure that users get the best functionality and cost-efficiency out of their process. We are able to offer three Multipump control solutions, each of which offer unsurpassed control of flow and pressure.

Demand for water or ventilation fluctuates throughout the course of a day. For instance, demand for running water in a major city usually peaks in the morning, as a great number of inhabitants are in the shower preparing for the working day. Conversely, in the middle of the night next to no water is being used.

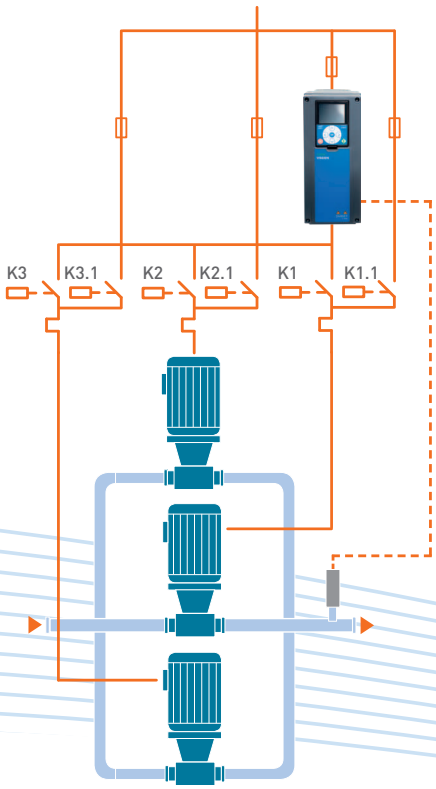
By using several pumps as opposed to a single one, higher redundancy and efficiency is achieved since the load is lightened by being spread across several pumps. It also makes for greater reliability – if one pump fails, the others can take on its load.

SINGLE DRIVE SYSTEM

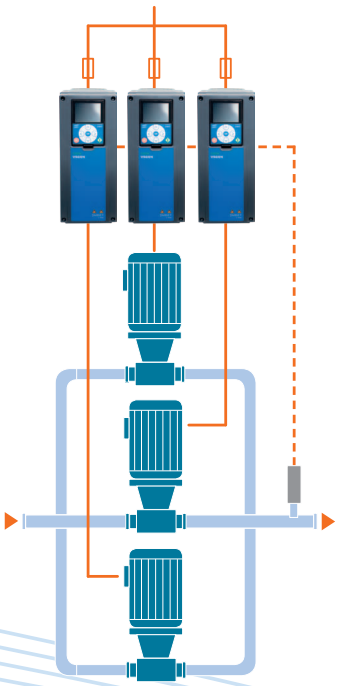
Multipump control is a single-drive solution in which one AC drive controls the leading pump. If the need for capacity exceeds the capabilities of the pump, additional fixed-speed pumps can be connected online or with a soft starter. You can choose between fixed setups and solutions in which the leading and auxiliary pumps alternate in roles to equalize wear and tear.



Single drive Multipump



Single drive system

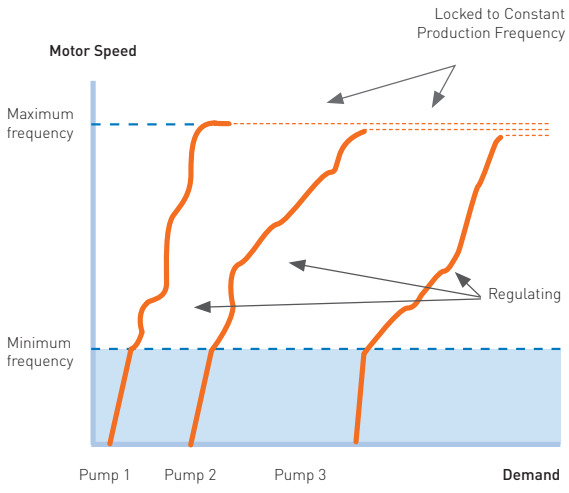


Multi drive system

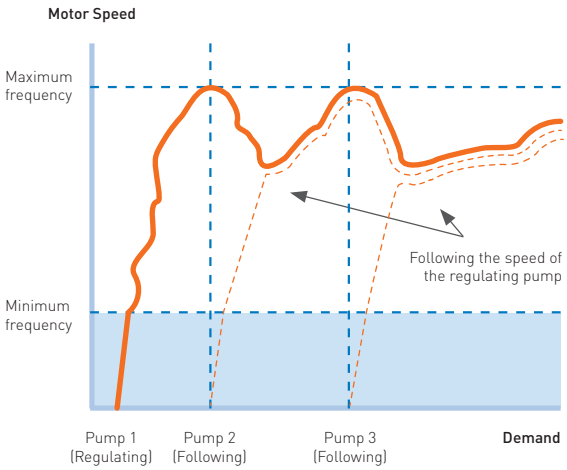
MULTIDRIVE SYSTEMS

Multimaster technology ensures that each pump is controlled by its 'own' AC drive. As demand increases, the leading drive locks into full speed until its capacity is exceeded, at which point the excess load is transferred to the next drive in the series. This method ensures pumps start and stop smoothly, and reduces the need for additional control wiring, motor protection relay and contactors.

Multifollower mode follows the same principle of Multimaster in that each pump is controlled by a designated AC drive. Where this system differs is that, as demand increases and the lead drive's capacity is exceeded, several drives are brought into operation. This ensures that all pumps run at the same operating speed, reducing noise and general stress, thus improving reliability.



Multimaster



Multifollower

WHAT'S IN IT FOR YOU

MULTIPUMP FEATURES

FUNCTION	DESCRIPTION	BENEFITS
Multipump single drive	Multipump solution with one drive and auxiliary pumps running at fixed speeds	Simplest multipump solution
Multipump Multifollower	Intelligent multipump solution using parallel pumps with comprehensive speed control	Efficient pumping and minimal noise for systems with large flow variations.
Multipump Multimaster	Intelligent multipump solution using multiple drives and auxiliary pumps	Efficient pumping in systems with large flow variations
Multipump interlocking of pumps	Able to disconnect pumps from multipump system using a digital signal	Avoid unnecessary downtime during pump system maintenance
Multipump diagnostics	Monitor usage period and number of starts for each pump	Enables preventive maintenance based on pump usage
Anti-blocking system	Ensures inactive pumps are run at regular intervals to avoid deterioration.	High level of redundancy ensures pumps remain in good condition
Multipump overpressure protection	Fast disconnect of pumps during periods of high line pressure	Reduces the risk of overpressure in case of sudden flow reduction
Pump alternation within multipump systems	Alternates multipump control sequence	Usage spread equally across all pumps

PUMPING FEATURES

FUNCTION	DESCRIPTION	BENEFITS
PID controller	Built-in controller that controls drive speed to maintain constant pressure	No need for external controllers
Second PID controller	Built-in controller that can be used to control external equipment	Saves the need of using external controllers
2-Zone PID Control	Control of two parallel process values	Better process control when two values are needed simultaneously
Frost Protection for pump	Temperature-sensitive sleep mode for pump	Reduces risk of frost-induced damages to pump
Pressure loss compensation	Compensates pressure loss in piping when pressure sensor is close to pump	Stabilizes pressure in systems with long Pipes
Start Boost	Increased starting torque	Ensures that pump starts after long periods of inactivity
Sleep Boosting	Increases system pressure before entering sleep mode	Maximizes pressure buffering time before wakeup e.g. in hydrofor applications
No demand detection	Ensures pump pressure is speed-responsive	Ensures that the pump does not run at unnecessarily high speeds, reducing energy consumption
Soft filling of pipe	Runs the pump at low speed until a pressure increase indicates the pipe is full	Reduces the risk of shocks in the piping system
Dry Pump supervision	Stops pump when there is not enough torque on the motor shaft	Protects the pump from damage from long dry runs
Priming pump	Control of additional priming pump with relay output	Main pump and piping automatically filled with water during startup
Jockey pump	Control of small jockey pump during low flow hours to maintain pressure	Main pump can be disconnected during periods of low demand
Auto-Cleaning / Anti-ragging	Detects when pump torque is increasing due to blocked pump and runs a user-defined cleaning sequence	Reduces risk of unplanned downtime in wastewater applications
Real time clock based multi-pump alternation	Alternates pumps at designated times	Spreads load across pumps to reduce wear and tear

MAINS VOLTAGE 208—240 V, 50/60 HZ, 3~

AC drive type	Loadability		Max Current I_s	Motor shaft power		Frame size	Dimensions WxHxD (mm) WxHxD (inch)	Weight (kg) (lbs)
	Cont. current I_L (A)	10% overload current [A]		10% overload 40°C [kW]	10% overload 104°F [HP]			
VACON 0100-3L-0003-2-FLOW VACON 0100-3L-0004-2-FLOW VACON 0100-3L-0007-2-FLOW VACON 0100-3L-0008-2-FLOW VACON 0100-3L-0011-2-FLOW VACON 0100-3L-0012-2-FLOW	3.7 4.8 6.6 8.0 11.0 12.5	4.1 5.3 7.3 8.8 12.1 13.8	5.2 7.4 9.6 13.2 16.0 19.2	0.55 0.75 1.1 1.5 2.2 3.0	0.75 1.0 1.5 2.0 3.0 4.0	MR4	128x328x190 5x12.9x7.5	6.0 13.0
VACON 0100-3L-0018-2-FLOW VACON 0100-3L-0024-2-FLOW VACON 0100-3L-0031-2-FLOW	18.0 24.0 31.0	19.8 26.4 34.1	25.0 36.0 46.0	4.0 5.5 7.5	5.0 7.5 10.0	MR5	144x419x214 5.7x16.5x8.4	10.0 22.0
VACON 0100-3L-0048-2-FLOW VACON 0100-3L-0062-2-FLOW	48.0 62.0	52.8 68.2	62.0 96.0	11.0 15.0	15.0 20.0	MR6	195x557x229 7.7x21.9x9	20.0 44.0
VACON 0100-3L-0075-2-FLOW VACON 0100-3L-0088-2-FLOW VACON 0100-3L-0105-2-FLOW	75.0 88.0 105.0	82.5 96.8 115.5	124.0 150.0 176.0	18.5 22.0 30.0	25.0 30.0 40.0	MR7	237x660x259 9.3x26x10.2	37.5 83.0
VACON 0100-3L-0140-2-FLOW VACON 0100-3L-0170-2-FLOW VACON 0100-3L-0205-2-FLOW	140.0 170.0 205.0	154.0 187.0 225.5	210.0 280.0 340.0	37.0 45.0 55.0	50.0 60.0 75.0	MR8	290x966x343 11.4x38x13.5	66.0 145.5
VACON 0100-3L-0261-2-FLOW VACON 0100-3L-0310-2-FLOW	261.0 310.0	287.1 341.0	410.0 502.0	75.0 90.0	100.0 125.0	MR9	480x1150x365 18.9x45.3x14.4	108.0 238.0
VACON 0100-3L-0140-2-FLOW +IP00 VACON 0100-3L-0170-2-FLOW +IP00 VACON 0100-3L-0205-2-FLOW +IP00	140.0 170.0 205.0	154.0 187.0 225.5	210.0 280.0 340.0	37.0 45.0 55.0	50.0 60.0 75.0	MR8*	290x794x343 11.4x31.3x13.5	62.0 136.7
VACON 0100-3L-0261-2-FLOW +IP00 VACON 0100-3L-0310-2-FLOW +IP00	261.0 310.0	287.1 341.0	410.0 502.0	75.0 90.0	100.0 125.0	MR9*	480x970x365 18.9x38.2x14.4	97.0 213.8

*** Frame sizes MR8 and MR9 are available as IP00/UL Open Type for cabinet installation**

MAINS VOLTAGE 380—500 V, 50/60 HZ, 3~

AC drive type	Loadability		Max Current I_s	Motor shaft power		Frame size	Dimensions WxHxD (mm) WxHxD (inch)	Weight (kg) (lbs)
	Cont. current I_L (A)	10% overload current [A]		10% overload 40°C [kW]	10% overload 104°F [HP]			
VACON 0100-3L-0003-5-FLOW VACON 0100-3L-0004-5-FLOW VACON 0100-3L-0005-5-FLOW VACON 0100-3L-0008-5-FLOW VACON 0100-3L-0009-5-FLOW VACON 0100-3L-0012-5-FLOW	3.4 4.8 5.6 8.0 9.6 12.0	3.7 5.3 6.2 8.8 10.6 13.2	5.2 6.8 8.6 11.2 16.0 19.2	1.1 1.5 2.2 3.0 4.0 5.5	1.5 2.0 3.0 4.0 5.0 7.5	MR4	128x328x190 5x12.9x7.5	6.0 13.0
VACON 0100-3L-0016-5-FLOW VACON 0100-3L-0023-5-FLOW VACON 0100-3L-0031-5-FLOW	16.0 23.0 31.0	17.6 25.3 34.1	24.0 32.0 46.0	7.5 11.0 15.0	10.0 15.0 20.0	MR5	144x419x214 5.7x16.5x8.4	10.0 22.0
VACON 0100-3L-0038-5-FLOW VACON 0100-3L-0046-5-FLOW VACON 0100-3L-0061-5-FLOW	38.0 46.0 61.0	41.8 50.6 67.1	62.0 76.0 92.0	18.5 22.0 30.0	25.0 30.0 40.0	MR6	195x557x229 7.7x21.9x9	20.0 44.0
VACON 0100-3L-0072-5-FLOW VACON 0100-3L-0087-5-FLOW VACON 0100-3L-0105-5-FLOW	72.0 87.0 105.0	79.2 95.7 115.5	122.0 144.0 174.0	37.0 45.0 55.0	50.0 60.0 75.0	MR7	237x660x259 9.3x26x10.2	37.5 83.0
VACON 0100-3L-0140-5-FLOW VACON 0100-3L-0170-5-FLOW VACON 0100-3L-0205-5-FLOW	140.0 170.0 205.0	154.0 187.0 225.5	210.0 280.0 340.0	75.0 90.0 110.0	100.0 125.0 150.0	MR8	290x966x343 11.4x38x13.5	66.0 145.5
VACON 0100-3L-0261-5-FLOW VACON 0100-3L-0310-5-FLOW	261.0 310.0	287.1 341.0	410.0 502.0	132.0 160.0	200.0 250.0	MR9	480x1150x365 18.9x45.3x14.4	108.0 238.0
VACON 0100-3L-0140-5-FLOW +IP00 VACON 0100-3L-0170-5-FLOW +IP00 VACON 0100-3L-0205-5-FLOW +IP00	140.0 170.0 205.0	154.0 187.0 225.5	210.0 280.0 340.0	75.0 90.0 110.0	100.0 125.0 150.0	MR8*	290x794x343 11.4x31.3x13.5	62.0 136.7
VACON 0100-3L-0261-5-FLOW +IP00 VACON 0100-3L-0310-5-FLOW +IP00	261.0 310.0	287.1 341.0	410.0 502.0	132.0 160.0	200.0 250.0	MR9*	480x970x365 18.9x38.2x14.4	97.0 213.8

*** Frame sizes MR8 and MR9 are available as IP00/UL Open Type for cabinet installation**

TECHNICAL DATA

Mains connection	Input voltage Uin	208...240 V; 380...500 V; -10%...+10%
	Input frequency	47 - 65Hz
	Connection to mains	Once per minute or less
	Starting delay	4 s (MR4 to MR6); 6 s (MR7 to MR9)
Motor connection	Output voltage	0-Uin
	Continuous output current	Il: Ambient temperature up to 40°C (104°F) overload 1.1 x Il (1 min./10 min).
	Output frequency	0...320 Hz (standard)
	Frequency resolution	0.01 Hz
Control characteristics	Switching frequency	1.5...10 kHz; Automatic switching frequency reduction in case of overheating
	Frequency reference	Resolution 0.01 Hz
	Analog input	Resolution 0.1% (10-bit)
	Field weakening point	8...320 Hz
	Acceleration time	0.1...3000 sec
	Deceleration time	0.1...3000 sec
Ambient conditions	Ambient operating temperature	IL : -10°C (-14°F) (no frost)... +40°C (104°F)
	Storage temperature	-40°C (-40°F)...+70°C (158°F)
	Relative humidity	0 to 95% RH, non-condensing, non-corrosive
	Air quality: • chemical vapors • mechanical particles	 EN/IEC 60721-3-3, unit in operation, class 3C3 EN/IEC 60721-3-3, unit in operation, class 3S2
	Altitude	100% load capacity (no derating) up to 1.000 m (3280 ft) 1% derating for each 100 m (328 ft) above 1.000 m (3280 ft) Max. altitudes: 4000 m (13123 ft) (TN and IT systems) 240V relay voltage up to 3000m (9842 ft) from 3000 m ...4000m (9842 ft ... 13123 ft) 120V relay voltage can be used.
	Vibration	EN/IEC 61800-5-1 EN/IEC 60068-2-6
	Shock	EN/IEC 61800-5-1 EN/IEC 60068-2-27
	Enclosure class	IP21/UL Type 1 standard in entire range IP54/UL Type 12 option IP00 for frames MR8, MR9
EMC (at default settings)	Immunity	Fulfils EN/IEC 61800-3, first and second environment
	Emissions	61800-3, Category C2 Vacon 100 will be delivered with class C2 EMC filtering, if not otherwise specified. Vacon 100 can be modified for IT networks
Emissions	Average sound pressure level in dB(A) (1 m from the drive)	MR4: 45...56 MR5: 57...65 MR6: 63...72 MR7: 43...73 MR8: 58...73 MR9: 54...75 Sound pressure depends on the cooling fans speed which is controlled in accordance with the drive temperature.
Safety and Approvals		EN/IEC 61800-5-1, EN/IEC 61800-3, EN/IEC 61000-3-12, UL 508 C, CE, UL, cUL, GOST-R, C-Tick; (see unit nameplate for more detailed approvals)
Functional safety *	STO SS1 ATEX Thermistor input	EN/IEC 61800-5-2 Safe Torque Off (STO) SIL3, EN ISO 13849-1 PL"e" Category 3, EN 62061: SILCL3, IEC 61508: SIL3. EN /IEC 61800-5-2 Safe Stop 1 (SS1) SIL2, EN ISO 13849-1 PL"d" Category 3, EN /IEC62061: SILCL2, IEC 61508: SIL2. 94/9/EC, CE 0537 Ex 11 (2) GD

*** Optional**

TYPE CODE KEY

VACON 0100 - 3L - 0009 - 5 - FLOW + OPTION CODES

Product	Input phase	Current rating	Voltage rating	+ Options

Basic I/O board					
Terminal		Signal	Terminal		Signal
1	+10 V_{ref}	Reference output	12	24 V_{out}	24 V aux. voltage
2	AI1+	Analog input, voltage or current	13	GND	I/O ground
3	AI1-	Analog input common (current)	14	DI4	Digital input 4
4	AI2+	Analog input, voltage or current	15	DI5	Digital input 5
5	AI2-	Analog input common (current)	16	DI6	Digital input 6
6	24 V_{out}	24 V aux. voltage	17	CM	Common A for DI1-DI6
7	GND	I/O ground	18	AO1+	Analog signal (+output)
8	DI1	Digital input 1	19	AO-/GND	Analog output common
9	DI2	Digital input 2	30	+24 V_{in}	24 V auxiliary input voltage
10	DI3	Digital input 3	A	RS485	Differential receiver/transmitter
11	CM	Common A for DI1-DI6	B	RS485	Differential receiver/transmitter

Standard relay board			Optional relay board *		
Terminal		+SBF3	Terminal		+SBF4
21	RO1/1 NC	Relay output 1	21	RO1/1 NC	Relay output 1
22	RO1/2 CM		22	RO1/2 CM	
23	RO1/3 NO		23	RO1/3 NO	
24	RO2/1 NC	Relay output 2	24	RO2/1 NC	Relay output 2
25	RO2/2 CM		25	RO2/2 CM	
26	RO2/3 NO		26	RO2/3 NO	
32	RO3/1 CM	Relay output 3	28	TI1+	Thermistor input
33	RO3/2 NO		29	TI1-	

*** Standard relay board SBF3 (3XRO) can be replaced by SBF4 (2 x RO + Thermistor)**

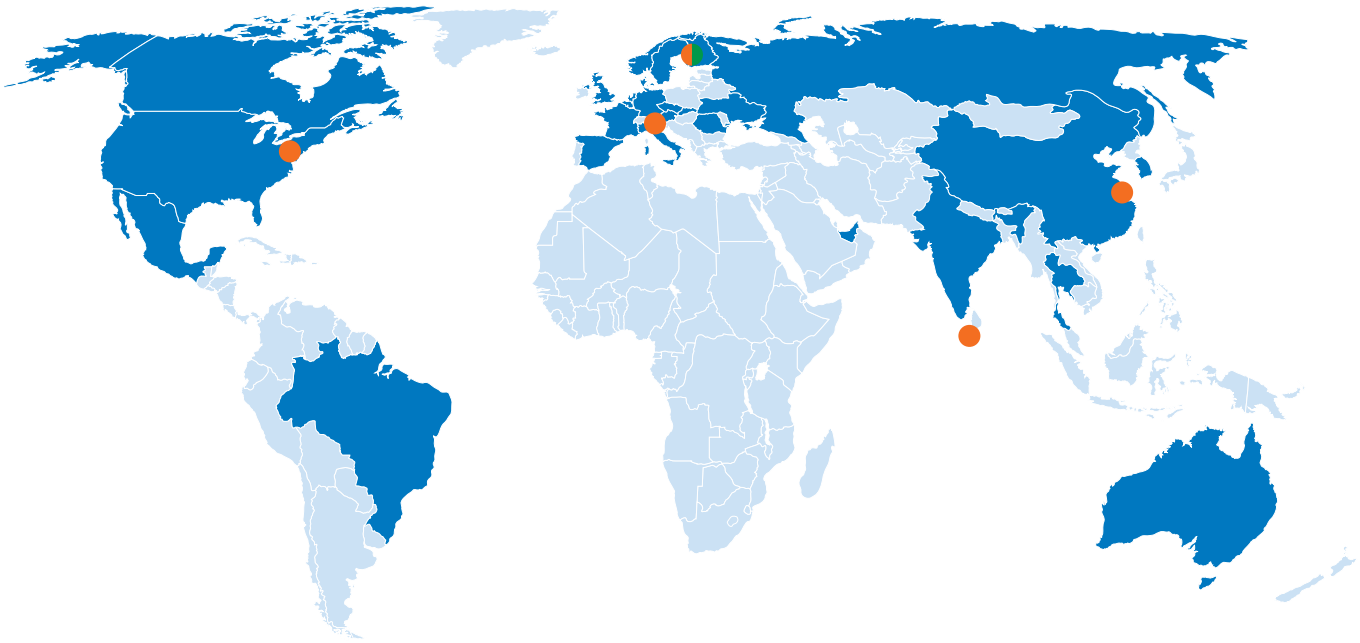
Ethernet Terminal	
Terminal	Signal
RJ45	Ethernet 10/100 Mbit/s

Factory options	Description
+SBF4	2 x Ro + Thermistor (Replaces 3 relay standard board)
+IP54	IP54 / UL Type 12
+IP00	IP00 / UL Upen Type (for MR8 and MR9)
+SRBT	Real-time clock battery
ENC-QFLG-MR	Flange mounting kit for MR4-7
+HMTX	Text keypad
+HMPA	Panel adapter
+S_B1	6 x DI/DO
+S_B2	2 x RO + Thermistor
+S_B4	1 x AI, 2 x AO
+S_B5	3 x RO
+S_B9	1 x RO, 5 x DI (42-240 VAC)
+S_BF	1 x AO, 1 x DO, 1 x RO
+S_BH	Temperature measurement
+S_E3	Profibus DPV1
+S_E5	Profibus DPV1 (D9)
+S_E6	CANopen
+S_E7	DeviceNET
+S_BJ	Safe Torque Off/ATEX
+FBIE	Ethernet IP and Profinet IO (software option onboard)
+QFLG	Flange mounting (MR4-MR7, for MR8 and MR9 with IP00)
+QGLC	Conduit plate with inch holes
+EMC4	Change to EMC-level c4 for IT networks
Language packages	
+FL01	English, German, Italian, French, Finnish, Swedish
+FL02	English, German, Finnish, Danish, Swedish, Norwegian
+FL03	English, Spanish, French, Italian, Dutch, Portuguese
+FL04	English, German, Czech, Polish, Russian, Slovakian
+FL05	English, German, Estonian, Hungarian, Romanian, Turkish

VACON AT YOUR SERVICE

Vacon is driven by a passion to develop, manufacture and sell the best AC drives and inverters in the world - and to provide customers with efficient product life-cycle services. Our AC drives offer optimum process control and energy efficiency for electric motors. Vacon inverters play a key role when energy is produced from renewable sources. Vacon has production and R&D facilities in Europe, Asia and North America, and sales and service operations in nearly 90 countries.

VACON – TRULY GLOBAL



● Production and R&D ● Vacon PLC ■ Vacon own sales offices ■ Served by Vacon partner

MANUFACTURING
and R&D on 3 continents

VACON SALES & SERVICE
in nearly 30 countries

SALES & SERVICE PARTNERS
in 90 countries

VACON®
DRIVEN BY DRIVES

Vacon partner

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