

Fact Sheet | VACON® 1000

Configurable, versatile and reliable medium-voltage drive for industrial applications

2.4 kV up to 11 kV

full range for industrial MV general purpose drive applications



MV drive designed with **you in mind**

Danfoss' unsurpassed experience in advanced AC drive technologies makes the VACON® 1000 air-cooled MV drive the preferred choice for industrial medium-voltage general purpose applications, especially for variable torque loads such as pumps and fans in the low and mid-power range. The standalone version, available at 215 A and below, is one of the most compact and versatile multi-level MV drives in its class.

Feature	Benefit
High reliability	
High MTBF	Up to 200,000 hours of non-stop operation (depending on voltage class and current rating)
Electronic bypass	IGBT based power cell bypass function enables fast (1 ms) reaction time (optional, +PPCB)
Power cell redundancy	Continued full power operation in case of fault in power cell (optional, +PPCR)
Low-voltage (LV) ride-through	Allows for continued operation during <100 ms grid voltage sag down to -30% of nominal input voltage
High temperature operation	Up to +50° C derated operation to avoid overheating
Harsh environment	IP31 as default, optional IP42, and chemical environment protection level IEC 660721: Class 3C2
Redundant cooling fan	Enables non-stop operation in case of a fan failure and extended overall lifetime (optional, +QDFR)
UPS for control voltage (DC)	Control stays on in case of supply interruptions
Air filter clogging sensor	Additional protection to prevent overheating
Detailed fault monitoring	Alarm and fault information for reduced downtime
External auxiliary power (LV)	External source input for cooling fans (optional, +QDEX)
Safety	
Door interlock (IEC versions: electromagnetic, UL versions: mechanical)	Prevents opening of cabinet door unless mains power is off
Residual voltage indicators	LEDs and HMI as well as visual DC-link voltage indicators on power cells provide complementary information for increased safety
PTC sensors for temperature monitoring	Transformer thermal protection
MV drives standard compliance	Complies with international MV drive safety requirements according to applicable IEC and UL standards
Fiber optic cables between MV and LV control parts	Galvanic isolation between LV controls and MV section
Low ownership cost	
Less than 5% THDi	Causes very low grid harmonics, minimal network disturbances, complies with IEEE-519
Designed for 20 years of operation	Long lifetime when the required operating conditions are met
High total efficiency >96.5%, including transformer	Short return on investment
Only front access required for installation and maintenance	Easy service access, saves space in electric room (no back-access needed)
No special requirements on motor insulation	Motor-friendly
Up to 2000 m operation	Install the drive in the optimal location, not necessarily next to motor
Process Performance	
Vector control	Closed-loop and sensorless vector control for applications requiring more precise control
U/f multipoint control	Increases efficiency in pump and fan applications
Different autotuning modes	Motor autotuning with three (3) different modes for easier start-up (coupled, uncoupled or non-rotational motor)
Configurable overload	Up to 300% maximum torque limit (with base load derating)
Overvoltage prevention during deceleration	Automatic limit control during fast deceleration to avoid overvoltage tripping
Voltage boost	Booster function for high starting torque requirements
Selectable for variable torque or constant torque rating	Optimal drive selection according to application needs
Multi-motor applications	Drive can be configured for alternating change-over of up to 8 motors (VSD to DOL), optional bypass switchgear needed
System bypass (Manual, Auto, Synchronous)	Preconfigured bypass configurations (to and from DOL) including make-before-brake switch over (optional, +PMBP Manual motor bypass, +PABP Automatic motor bypass, or +PSBP Synchronous transfer for 1 motor only)
User-friendly	
Easy and simple selections	Wide variety of standard options supports flexible configuration
Touch screen as standard	HMI 7" screen as default, optional 10" screen (+MHMI), for local control and monitoring
Commissioning tool	PC tool for parameter setting with embedded oscilloscope-like function
Event log	Log up to 500 events with event description
Fieldbus communication	Most common communication protocols available for flexible system control (optional)
Space saving	
High power density	Standalone version with smallest footprint in the market available at 215 A and below (≤6.9 kV)
Standalone design (≤215 A, ≤6.9 kV)	No on-site interconnection of separate sections needed
Simple cable installation	Allows for top and bottom cabling for input and output power and control

Technical data

Topology type	Multilevel IGBT topology (Cascade H-Bridge)
Technology	Voltage source inverter (VSI)
Inverter configuration	Pulse Width Modulated (PWM) power modules
Input frequency	50/60 Hz ($\pm 5\%$ transients)
Input voltage tolerance	$\pm 10\%$ of nominal, unbalance up to 3%, per IEC 610002-4
Input voltage sag	-30% of nominal without tripping Continuous operation with reduced power, derated power between 70-90%
Short circuit current rating (SCCR)	31.5 kA, 100 ms
Input current THD	<5% (at rated load)
Input voltage THD	<5% (at rated load)
Output current THDi (1st...49th)	<2% at rated speed
Output dU/dt	<3000 V/ μ s
Power factor	>0.96 (at rated load)
System efficiency	>98.5% (at rated load, excluding transformer) >96.5% (at rated load, including transformer)
Output voltage range	2.4–11 kV
Output frequency range	0–75 Hz (higher frequencies, for example, 120 Hz can be evaluated)
Loading	Squared torque; Constant torque; Constant torque and/or power
Motor control method	U/F control; Sensorless vector control; Vector control with speed feedback; Speed and torque control
Motor type	Induction (asynchronous) motor or Synchronous motor (with separate excitation)
Frequency resolution	0.01 Hz
Speed control range	1–100% (with closed-loop vector control); 5–100% (with sensorless vector control)
Steady state speed control accuracy (% of rated speed)	$\pm 0.01\%$ (with closed-loop vector control, depending on sensor accuracy) $\pm 0.5\%$ (with sensorless vector control)
Acceleration/Deceleration time	0–3000 s (configurable)
Control voltage with circuit protection	1– 230 VAC, 50 Hz; 1– 220 VAC, 60 Hz
Control power	Single phase AC 120–240V; Three Phase AC 240–480V; capacity 5 kVA (other voltages available)
Design operating time	24 hours/day
Minimum availability per 12 months	99.97%
MTBF	Up to 200,000 hours of nonstop operation depending on the voltage class and current rating
Product lifetime	20 years
Input impedance device	Multiphase isolation transformer integrated into the drive
Transformer type of construction	Dry type, phase shifting, Cu/Cu; Forced air cooling Al/Cu or Al/Al available as an engineered option
Transformer insulation type	Class 180 (H)
Transformer inrush current limitation	$I_n > 215$ A limited with start-up cabinet (optional, +PSTC)
Transformer secondary for auxiliaries	Three phase, 460 VAC with neutral and with a 380 VAC tap, 50/60 Hz
Temperature sensors in transformer windings	3x PT100, one in each winding
Grounding system	As per IEC61936-1
Ground busbar	Tin-plated grounding bus bar section
Cabinet sheet metal thickness	Doors and panels: 1.5 mm. Base plinth: 5 mm
Cabinet lights	In the control cabinet
Power cell bypass	Automatic via IGBT, 1 ms bypass time (optional, +PPCB)
UPS for control voltage (DC)	30 minutes running time
External auxiliary AC voltage for cooling fan (optional, +QDEX)	380–460 VAC, 50 Hz 380–460 VAC, 60 Hz
Enclosure IP and access	IP31 (IEC) (standard) IP42 (IEC) (optional, +IP42)
Cables entry	Input, motor and control cables: bottom and top
Cooling System	Forced air cooling including fan monitoring. Fan redundancy (optional, +QDFR)
Ambient temperature (operation)	0°–40°C (normal operation); 40°–50°C (derated operation)
Ambient temperature (storage/transportation)	-40–70° C
Relative humidity (operation)	5–95% non-condensing
Relative humidity (storage/transportation)	10–95% non-condensing
Chemical environment conditions	IEC 60721-3-3: Class 3C2
Environment corrosion category	According to ISO/EN 12944-2: C1 as default; C4 as an engineered option
Electromagnetic compatibility environment	IEC 61000-2-5: Industrial
Altitude	<1000 m (standard); 1000–2000 m (derating); >2000 m (on request)
Seismic zone/Ground acceleration	Zone 2 (standard) Zone 4 (optional, +SZ04)
System burn-in at factory prior to delivery	4 h minimum, according to IEEE 1566
ATEX area: Flammable product/Zone	IEC 60079-10-1/2: as an engineered option, certified per EN 50495:2010
Noise level	≤ 85 dB(A) at 1 m from the enclosure

Power rating (IEC variant)

AC drive type	Low overload rating 110% (Variable torque)		High overload rating 150% (Constant torque)		Cabinet dimensions			Weight
	I _L [A]	S [kVA]	I _{HD} [A]	S [kVA]	HxWxD [mm]			[kg]
Nominal voltage 3000 V (18-pulse, 3 power cell per phase, 50 Hz)								
VACON1000-ED-036-030+G2CE	36	180	26	130	2796	1210	1250	2000
VACON1000-ED-050-030+G2CE	50	250	36	180	2796	1210	1250	2050
VACON1000-ED-070-030+G2CE	70	360	51	260	2796	1210	1250	2100
VACON1000-ED-090-030+G2CE	90	460	66	340	2888	1610	1250	2850
VACON1000-ED-100-030+G2CE	100	510	73	370	2888	1610	1250	2900
VACON1000-ED-120-030+G2CE	120	620	88	450	2888	1610	1250	2950
VACON1000-ED-140-030+G2CE	140	720	102	530	2888	1610	1250	3000
VACON1000-ED-150-030+G2CE	150	770	110	570	2888	1910	1250	4350
VACON1000-ED-180-030+G2CE	180	930	132	680	2888	1910	1250	4400
VACON1000-ED-190-030+G2CE	190	980	139	720	2888	1910	1250	4450
VACON1000-ED-215-030+G2CE	215	1110	157	810	2888	1910	1250	4500
VACON1000-ED-250-030+G2CE	250	1290	183	950	2796	3810	1400	5100
VACON1000-ED-305-030+G2CE	305	1580	223	1150	2796	4110	1400	5500
VACON1000-ED-350-030+G2CE	350	1810	256	1330	2796	4110	1400	5800
VACON1000-ED-438-030+G2CE	438	2270	321	1660	2796	4710	1400	6950
VACON1000-ED-560-030+G2CE	560	2900	410	2130	2796	5010	1400	8300
VACON1000-ED-680-030+G2CE	680	3530	498	2580	2796	5010	1400	9350
Nominal voltage 3300 V (18-pulse, 3 power cell per phase, 50 Hz)								
VACON1000-ED-036-033+G2CE	36	200	26	140	2796	1210	1250	2200
VACON1000-ED-050-033+G2CE	50	280	36	200	2796	1210	1250	2250
VACON1000-ED-070-033+G2CE	70	400	51	290	2796	1210	1250	2300
VACON1000-ED-090-033+G2CE	90	510	66	370	2888	1610	1250	3050
VACON1000-ED-100-033+G2CE	100	570	73	410	2888	1610	1250	3100
VACON1000-ED-120-033+G2CE	120	680	88	500	2888	1610	1250	3150
VACON1000-ED-140-033+G2CE	140	800	102	580	2888	1610	1250	3200
VACON1000-ED-150-033+G2CE	150	850	110	620	2888	1910	1250	4550
VACON1000-ED-180-033+G2CE	180	1020	132	750	2888	1910	1250	4600
VACON1000-ED-190-033+G2CE	190	1080	139	790	2888	1910	1250	4650
VACON1000-ED-215-033+G2CE	215	1220	157	890	2888	1910	1250	4700
VACON1000-ED-250-033+G2CE	250	1420	183	1040	2796	4110	1400	5300
VACON1000-ED-305-033+G2CE	305	1740	223	1270	2796	4110	1400	5800
VACON1000-ED-350-033+G2CE	350	2000	256	1460	2796	4110	1400	6100
VACON1000-ED-438-033+G2CE	438	2500	321	1830	2796	4710	1400	7450
VACON1000-ED-560-033+G2CE	560	3200	410	2340	2796	5010	1400	8700
VACON1000-ED-680-033+G2CE	680	3880	498	2840	2796	5010	1400	9950
Nominal voltage 4160 V (24-pulse, 4 power cell per phase, 50 Hz)								
VACON1000-ED-036-041+G2CE	36	250	26	180	2796	1210	1250	2400
VACON1000-ED-050-041+G2CE	50	360	36	250	2796	1210	1250	2450
VACON1000-ED-070-041+G2CE	70	500	51	360	2796	1210	1250	2500
VACON1000-ED-090-041+G2CE	90	640	66	470	2888	1610	1250	3250
VACON1000-ED-100-041+G2CE	100	720	73	520	2888	1610	1250	3300
VACON1000-ED-120-041+G2CE	120	860	88	630	2888	1610	1250	3350
VACON1000-ED-140-041+G2CE	140	1000	102	730	2888	1610	1250	3400
VACON1000-ED-150-041+G2CE	150	1080	110	790	2888	1910	1250	4750
VACON1000-ED-180-041+G2CE	180	1290	132	950	2888	1910	1250	4800
VACON1000-ED-190-041+G2CE	190	1360	139	1000	2888	1910	1250	4850
VACON1000-ED-215-041+G2CE	215	1540	157	1130	2888	1910	1250	4900
VACON1000-ED-250-041+G2CE	250	1800	183	1310	2796	4610	1400	6150
VACON1000-ED-305-041+G2CE	305	2190	223	1600	2796	4610	1400	6850
VACON1000-ED-350-041+G2CE	350	2520	256	1840	2796	4610	1400	7450
VACON1000-ED-438-041+G2CE	438	3150	321	2310	2796	5410	1400	9000
VACON1000-ED-560-041+G2CE	560	4030	410	2950	2796	5410	1400	10700
VACON1000-ED-680-041+G2CE	680	4890	498	3580	2796	5810	1400	11950

Height excluding cooling fan is 2328 mm

Power rating (IEC variant)

AC drive type	Low overload rating 110% (Variable torque)		High overload rating 150% (Constant torque)		Cabinet dimensions			Weight
	I _L [A]	S [kVA]	I _{HD} [A]	S [kVA]	HxWxD [mm]			[kg]
Nominal voltage 6000 V (30-pulse, 5 power cell per phase, 50 Hz)								
VACON1000-ED-036-060+G2CE	36	370	26	270	2796	2310	1250	3500
VACON1000-ED-050-060+G2CE	50	510	36	370	2796	2310	1250	3550
VACON1000-ED-070-060+G2CE	70	720	51	530	2796	2310	1250	3600
VACON1000-ED-090-060+G2CE	90	930	66	680	2888	2710	1250	4850
VACON1000-ED-100-060+G2CE	100	1030	73	750	2888	2710	1250	4900
VACON1000-ED-120-060+G2CE	120	1240	88	910	2888	2710	1250	4950
VACON1000-ED-140-060+G2CE	140	1450	102	1060	2888	2710	1250	5000
VACON1000-ED-150-060+G2CE	150	1550	110	1140	2888	3010	1250	5850
VACON1000-ED-180-060+G2CE	180	1870	132	1370	2888	3010	1250	5900
VACON1000-ED-190-060+G2CE	190	1970	139	1440	2888	3010	1250	5950
VACON1000-ED-215-060+G2CE	215	2230	157	1630	2888	3010	1250	6000
VACON1000-ED-250-060+G2CE	250	2590	183	1900	2796	5160	1400	7700
VACON1000-ED-305-060+G2CE	305	3160	223	2310	2796	5160	1400	8600
VACON1000-ED-350-060+G2CE	350	3630	256	2660	2796	5160	1400	9200
VACON1000-ED-438-060+G2CE	438	4550	321	3330	2796	6410	1400	11500
VACON1000-ED-560-060+G2CE	560	5810	410	4260	2796	6610	1400	13750
VACON1000-ED-680-060+G2CE	680	7060	498	5170	2796	7210	1600	15500
Nominal voltage 6600 V (36-pulse, 6 power cell per phase, 50 Hz)								
VACON1000-ED-036-066+G2CE	36	410	26	290	2796	2310	1250	3700
VACON1000-ED-050-066+G2CE	50	570	36	410	2796	2310	1250	3750
VACON1000-ED-070-066+G2CE	70	800	51	580	2796	2310	1250	3800
VACON1000-ED-090-066+G2CE	90	1020	66	750	2888	2710	1250	5050
VACON1000-ED-100-066+G2CE	100	1140	73	830	2888	2710	1250	5100
VACON1000-ED-120-066+G2CE	120	1370	88	1000	2888	2710	1250	5150
VACON1000-ED-140-066+G2CE	140	1600	102	1160	2888	2710	1250	5200
VACON1000-ED-150-066+G2CE	150	1710	110	1250	2888	3010	1250	6050
VACON1000-ED-180-066+G2CE	180	2050	132	1500	2888	3010	1250	6100
VACON1000-ED-190-066+G2CE	190	2170	139	1580	2888	3010	1250	6150
VACON1000-ED-215-066+G2CE	215	2450	157	1790	2888	3010	1250	6200
VACON1000-ED-250-066+G2CE	250	2850	183	2090	2796	5410	1400	8800
VACON1000-ED-305-066+G2CE	305	3480	223	2540	2796	5410	1400	9800
VACON1000-ED-350-066+G2CE	350	4000	256	2920	2796	5410	1400	10700
VACON1000-ED-438-066+G2CE	438	5000	321	3660	2796	6810	1400	13050
VACON1000-ED-560-066+G2CE	560	6400	410	4680	2796	7010	1400	15050
VACON1000-ED-680-066+G2CE	680	7770	498	5690	2796	7610	1600	18550
Nominal voltage 10000 V (48-pulse, 8 power cell per phase, 50 Hz)								
VACON1000-ED-036-100+G2CE	36	620	26	450	2796	3410	1250	4100
VACON1000-ED-050-100+G2CE	50	860	36	620	2796	3410	1250	4400
VACON1000-ED-070-100+G2CE	70	1210	51	880	2796	3410	1250	4700
VACON1000-ED-090-100+G2CE	90	1550	66	1140	2888	3910	1250	6250
VACON1000-ED-100-100+G2CE	100	1730	73	1260	2888	3910	1250	6550
VACON1000-ED-120-100+G2CE	120	2070	88	1520	2888	3910	1250	6850
VACON1000-ED-140-100+G2CE	140	2420	102	1760	2888	3910	1250	7250
VACON1000-ED-150-100+G2CE	150	2590	110	1900	2888	4660	1250	10100
VACON1000-ED-180-100+G2CE	180	3110	132	2280	2888	4660	1250	10400
VACON1000-ED-190-100+G2CE	190	3290	139	2400	2888	4660	1250	10700
VACON1000-ED-215-100+G2CE	215	3720	157	2710	2888	4660	1250	11100
VACON1000-ED-250-100+G2CE	250	4330	183	3160	2796	6560	1400	11600
VACON1000-ED-305-100+G2CE	305	5280	223	3860	2796	6560	1400	13100
VACON1000-ED-350-100+G2CE	350	6060	256	4430	2796	6760	1400	14400
VACON1000-ED-438-100+G2CE	438	7580	321	5550	2796	9810	1400	18200
VACON1000-ED-560-100+G2CE	560	9690	410	7100	2796	10610	1400	21900
VACON1000-ED-680-100+G2CE	680	11770	498	8620	2796	11010	1400	25350

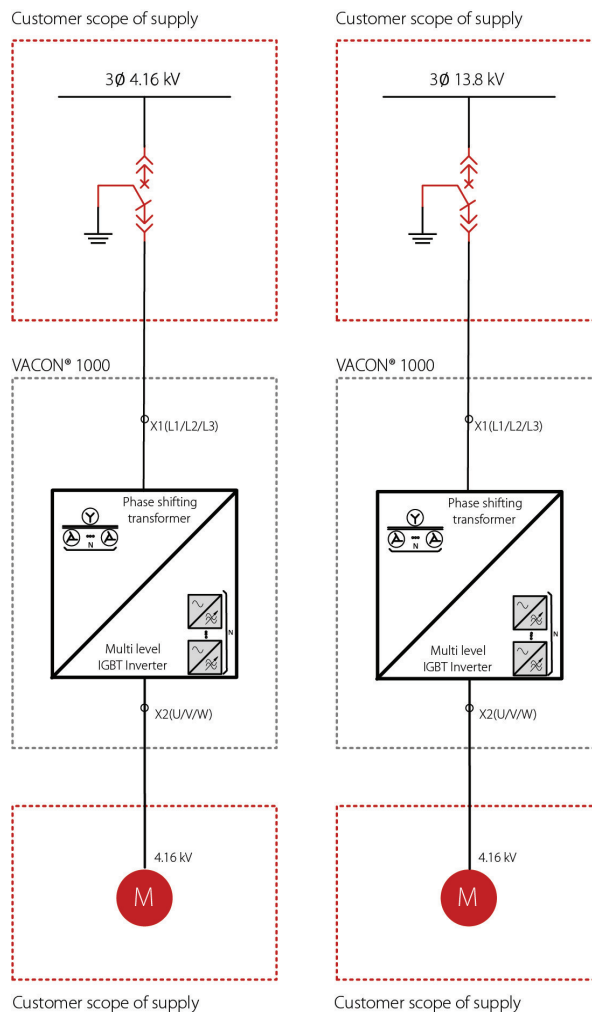
Height excluding cooling fan is 2328 mm

Power rating (IEC variant)

AC drive type	Low overload rating 110% (Variable torque)		High overload rating 150% (Constant torque)		Cabinet dimensions			Weight
	I _L [A]	S [kVA]	I _{HD} [A]	S [kVA]	HxWxD [mm]			[kg]
Nominal voltage 11000 V (54-pulse, 9 power cell per phase, 50 Hz)								
VACON1000-ED-036-110+G2CE	36	680	26	490	2796	3410	1250	4400
VACON1000-ED-050-110+G2CE	50	950	36	680	2796	3410	1250	4800
VACON1000-ED-070-110+G2CE	70	1330	51	970	2796	3410	1250	5200
VACON1000-ED-090-110+G2CE	90	1710	66	1250	2888	3910	1250	6550
VACON1000-ED-100-110+G2CE	100	1900	73	1390	2888	3910	1250	6850
VACON1000-ED-120-110+G2CE	120	2280	88	1670	2888	3910	1250	7150
VACON1000-ED-140-110+G2CE	140	2660	102	1940	2888	3910	1250	7550
VACON1000-ED-150-110+G2CE	150	2850	110	2090	2888	4660	1250	10600
VACON1000-ED-180-110+G2CE	180	3420	132	2510	2888	4660	1250	10900
VACON1000-ED-190-110+G2CE	190	3610	139	2640	2888	4660	1250	11200
VACON1000-ED-215-110+G2CE	215	4090	157	2990	2888	4660	1250	11500
VACON1000-ED-250-110+G2CE	250	4760	183	3480	2796	6810	1400	12950
VACON1000-ED-305-110+G2CE	305	5810	223	4240	2796	7010	1400	14750
VACON1000-ED-350-110+G2CE	350	6660	256	4870	2796	7010	1400	16750
VACON1000-ED-438-110+G2CE	438	8340	321	6110	2796	10810	1400	20550
VACON1000-ED-560-110+G2CE	560	10660	410	7810	2796	11410	1400	24550
VACON1000-ED-680-110+G2CE	680	12950	498	9480	2796	12210	1600	28600

Height excluding cooling fan is 2328 mm

VACON® 1000 Single line diagram



Power rating (UL variant)

AC drive type	Low overload rating 110% (Variable torque)		High overload rating 150% (Constant torque)		Cabinet dimensions			Weight
	I _L [A]	S [kVA]	I _{HD} [A]	S [kVA]	HxWxD [mm]			[kg]
Nominal voltage 2400 V (18-pulse, 3 power cell per phase, 60 Hz)								
VACON1000-ED-036-024+GAUL	36	180	26	130	2796	1210	1250	2000
VACON1000-ED-050-024+GAUL	50	250	36	180	2796	1210	1250	2050
VACON1000-ED-070-024+GAUL	70	360	51	260	2796	1210	1250	2100
VACON1000-ED-090-024+GAUL	90	460	66	340	2888	1610	1250	2850
VACON1000-ED-100-024+GAUL	100	510	73	370	2888	1610	1250	2900
VACON1000-ED-116-024+GAUL	116	600	85	440	2888	1610	1250	2925
VACON1000-ED-120-024+GAUL	120	620	88	450	2888	1610	1250	2950
VACON1000-ED-140-024+GAUL	140	720	102	530	2888	1910	1250	3000
VACON1000-ED-160-024+GAUL	160	830	117	600	2888	1910	1250	4350
VACON1000-ED-180-024+GAUL	180	930	132	680	2888	1910	1250	4400
VACON1000-ED-215-024+GAUL	215	1110	157	810	2888	1910	1250	4500
VACON1000-ED-230-024+GAUL	230	1190	168	870	2796	3810	1400	4600
VACON1000-ED-250-024+GAUL	250	1290	183	950	2796	3810	1400	4700
VACON1000-ED-265-024+GAUL	265	1370	194	1000	2796	3810	1400	4800
VACON1000-ED-285-024+GAUL	285	1480	209	1080	2796	3810	1400	4900
VACON1000-ED-305-024+GAUL	305	1580	223	1150	2796	3810	1400	5000
VACON1000-ED-325-024+GAUL	325	1680	238	1230	2796	4110	1400	5100
VACON1000-ED-350-024+GAUL	350	1810	256	1330	2796	4110	1400	5300
VACON1000-ED-378-024+GAUL	378	1960	277	1430	2796	4710	1400	5850
VACON1000-ED-408-024+GAUL	408	2120	299	1550	2796	4710	1400	6050
VACON1000-ED-438-024+GAUL	438	2270	321	1660	2796	4710	1400	6250
VACON1000-ED-475-024+GAUL	475	2460	348	1800	2796	4710	1400	6600
VACON1000-ED-515-024+GAUL	515	2670	377	1950	2796	4710	1400	6900
VACON1000-ED-560-024+GAUL	560	2900	410	2130	2796	5010	1400	7400
VACON1000-ED-600-024+GAUL	600	3110	440	2280	2796	5010	1400	7550
VACON1000-ED-640-024+GAUL	640	3320	469	2430	2796	5010	1400	7850
VACON1000-ED-680-024+GAUL	680	3530	498	2580	2796	5010	1400	8250
Nominal voltage 3000 V (18-pulse, 3 power cell per phase, 60 Hz)								
VACON1000-ED-036-030+GAUL	36	180	26	130	2796	1210	1250	2100
VACON1000-ED-040-030+GAUL	40	200	29	150	2796	1210	1250	2125
VACON1000-ED-050-030+GAUL	50	250	36	180	2796	1210	1250	2150
VACON1000-ED-061-030+GAUL	61	310	44	220	2796	1210	1250	2175
VACON1000-ED-070-030+GAUL	70	360	51	260	2796	1210	1250	2200
VACON1000-ED-077-030+GAUL	77	400	56	290	2888	1610	1250	2900
VACON1000-ED-090-030+GAUL	90	460	66	340	2888	1610	1250	2950
VACON1000-ED-095-030+GAUL	95	490	69	350	2888	1610	1250	2975
VACON1000-ED-100-030+GAUL	100	510	73	370	2888	1610	1250	3000
VACON1000-ED-118-030+GAUL	118	610	86	440	2888	1610	1250	3025
VACON1000-ED-120-030+GAUL	120	620	88	450	2888	1610	1250	3050
VACON1000-ED-140-030+GAUL	140	720	102	530	2888	1610	1250	3100
VACON1000-ED-180-030+GAUL	180	930	132	680	2888	1910	1250	4500
VACON1000-ED-186-030+GAUL	186	960	136	700	2888	1910	1250	4525
VACON1000-ED-215-030+GAUL	215	1110	157	810	2888	1910	1250	4600
VACON1000-ED-230-030+GAUL	230	1190	168	870	2796	3810	1400	5000
VACON1000-ED-250-030+GAUL	250	1290	183	950	2796	4110	1400	5100
VACON1000-ED-265-030+GAUL	265	1370	194	1000	2796	4110	1400	5100
VACON1000-ED-285-030+GAUL	285	1480	209	1080	2796	4110	1400	5300
VACON1000-ED-305-030+GAUL	305	1580	223	1150	2796	4110	1400	5500
VACON1000-ED-325-030+GAUL	325	1680	238	1230	2796	4110	1400	5600
VACON1000-ED-350-030+GAUL	350	1810	256	1330	2796	4110	1400	5800
VACON1000-ED-378-030+GAUL	378	1960	277	1430	2796	4710	1400	6450
VACON1000-ED-408-030+GAUL	408	2120	299	1550	2796	4710	1400	6750
VACON1000-ED-438-030+GAUL	438	2270	321	1660	2796	4710	1400	6950
VACON1000-ED-475-030+GAUL	475	2460	348	1800	2796	5010	1400	7500
VACON1000-ED-515-030+GAUL	515	2670	377	1950	2796	5010	1400	7800

Height excluding cooling fan is 2328 mm

Power rating (UL variant)

AC drive type	Low overload rating 110% (Variable torque)		High overload rating 150% (Constant torque)		Cabinet dimensions			Weight
	I _L [A]	S [kVA]	I _{HD} [A]	S [kVA]	HxWxD [mm]			[kg]
Nominal voltage 3000 V (18-pulse, 3 power cell per phase, 60 Hz)								
VACON1000-ED-560-030+GAUL	560	2900	410	2130	2796	5010	1400	8300
VACON1000-ED-600-030+GAUL	600	3110	440	2280	2796	5010	1400	8550
VACON1000-ED-640-030+GAUL	640	3320	469	2430	2796	5010	1400	8850
VACON1000-ED-680-033+GAUL	680	3530	498	2580	2796	5010	1400	9350
Nominal voltage 3300 V (18-pulse, 3 power cell per phase, 60 Hz)								
VACON1000-ED-036-033+GAUL	36	200	26	140	2796	1210	1250	2200
VACON1000-ED-040-033+GAUL	70	400	51	290	2796	1210	1250	2225
VACON1000-ED-050-033+GAUL	50	280	36	200	2796	1210	1250	2250
VACON1000-ED-061-033+GAUL	61	340	44	250	2796	1210	1250	2275
VACON1000-ED-070-033+GAUL	70	400	51	290	2796	1210	1250	2300
VACON1000-ED-077-033+GAUL	77	440	56	320	2888	1610	1250	3000
VACON1000-ED-090-033+GAUL	90	510	66	370	2888	1610	1250	3050
VACON1000-ED-095-033+GAUL	95	540	69	390	2888	1610	1250	3075
VACON1000-ED-100-033+GAUL	100	570	73	410	2888	1610	1250	3100
VACON1000-ED-118-033+GAUL	118	670	86	490	2888	1610	1250	3125
VACON1000-ED-120-033+GAUL	120	680	88	500	2888	1610	1250	3150
VACON1000-ED-140-033+GAUL	140	800	102	580	2888	1610	1250	3200
VACON1000-ED-180-033+GAUL	180	1020	132	750	2888	1910	1250	4600
VACON1000-ED-186-033+GAUL	186	1060	136	770	2888	1910	1250	4625
VACON1000-ED-215-033+GAUL	215	1220	157	890	2888	1910	1250	4700
VACON1000-ED-230-033+GAUL	230	1310	168	960	2796	4110	1400	5100
VACON1000-ED-250-033+GAUL	250	1420	183	1040	2796	4110	1400	5300
VACON1000-ED-265-033+GAUL	265	1510	194	1100	2796	4110	1400	5300
VACON1000-ED-285-033+GAUL	285	1620	209	1190	2796	4110	1400	5500
VACON1000-ED-305-033+GAUL	305	1740	223	1270	2796	4110	1400	5800
VACON1000-ED-325-033+GAUL	325	1850	238	1360	2796	4110	1400	5800
VACON1000-ED-350-033+GAUL	350	2000	256	1460	2796	4110	1400	6100
VACON1000-ED-378-033+GAUL	378	2160	277	1580	2796	4710	1400	6750
VACON1000-ED-408-033+GAUL	408	2330	299	1700	2796	4710	1400	7150
VACON1000-ED-438-033+GAUL	438	2500	321	1830	2796	5010	1400	7450
VACON1000-ED-475-033+GAUL	475	2710	348	1980	2796	5010	1400	7900
VACON1000-ED-515-033+GAUL	515	2940	377	2150	2796	5010	1400	8200
VACON1000-ED-560-033+GAUL	560	3200	410	2340	2796	5010	1400	8700
VACON1000-ED-600-033+GAUL	600	3420	440	2510	2796	5010	1400	9050
VACON1000-ED-640-033+GAUL	640	3650	469	2680	2796	5010	1400	9450
VACON1000-ED-680-033+GAUL	680	3880	498	2840	2796	5410	1400	9950
Nominal voltage 4160 V (24-pulse, 4 power cell per phase, 60 Hz)								
VACON1000-ED-036-041+GAUL	36	250	26	180	2796	1210	1250	2400
VACON1000-ED-040-041+GAUL	40	280	29	200	2796	1210	1250	2425
VACON1000-ED-050-041+GAUL	50	360	36	250	2796	1210	1250	2450
VACON1000-ED-053-041+GAUL	53	380	38	270	2796	1210	1250	2475
VACON1000-ED-059-041+GAUL	59	420	43	300	2796	1210	1250	2500
VACON1000-ED-070-041+GAUL	70	500	51	360	2796	1210	1250	2500
VACON1000-ED-078-041+GAUL	78	560	57	410	2888	1610	1250	3200
VACON1000-ED-090-041+GAUL	90	640	66	470	2888	1610	1250	3250
VACON1000-ED-100-041+GAUL	100	720	73	520	2888	1610	1250	3300
VACON1000-ED-105-041+GAUL	105	750	77	550	2888	1610	1250	3325
VACON1000-ED-116-041+GAUL	116	830	85	610	2888	1610	1250	3325
VACON1000-ED-120-041+GAUL	120	860	88	630	2888	1610	1250	3350
VACON1000-ED-128-041+GAUL	128	920	93	670	2888	1610	1250	3375
VACON1000-ED-140-041+GAUL	140	1000	102	730	2888	1610	1250	3400
VACON1000-ED-160-041+GAUL	160	1150	117	840	2888	1910	1250	4750
VACON1000-ED-180-041+GAUL	180	1290	132	950	2888	1910	1250	4800
VACON1000-ED-193-041+GAUL	193	1390	141	1010	2888	1910	1250	4850
VACON1000-ED-215-041+GAUL	215	1540	157	1130	2888	1910	1250	4900

Height excluding cooling fan is 2328 mm

Power rating (UL variant)

AC drive type	Low overload rating 110% (Variable torque)		High overload rating 150% (Constant torque)		Cabinet dimensions			Weight
	I _L [A]	S [kVA]	I _{HD} [A]	S [kVA]	HxWxD [mm]			[kg]
Nominal voltage 4160 V (24-pulse, 4 power cell per phase, 60 Hz)								
VACON1000-ED-230-041+GAUL	230	1650	168	1210	2796	4610	1400	5850
VACON1000-ED-250-041+GAUL	250	1800	183	1310	2796	4610	1400	6150
VACON1000-ED-265-041+GAUL	265	1900	194	1390	2796	4610	1400	6350
VACON1000-ED-285-041+GAUL	285	2050	209	1500	2796	4610	1400	6550
VACON1000-ED-305-041+GAUL	305	2190	223	1600	2796	4610	1400	6850
VACON1000-ED-325-041+GAUL	325	2340	238	1710	2796	4610	1400	7050
VACON1000-ED-350-041+GAUL	350	2520	256	1840	2796	4910	1400	7450
VACON1000-ED-378-041+GAUL	378	2720	277	1990	2796	5410	1400	8200
VACON1000-ED-408-041+GAUL	408	2930	299	2150	2796	5410	1400	8500
VACON1000-ED-438-041+GAUL	438	3150	321	2310	2796	5410	1400	9000
VACON1000-ED-475-041+GAUL	475	3420	348	2500	2796	5410	1400	9400
VACON1000-ED-515-041+GAUL	515	3710	377	2710	2796	5810	1400	9900
VACON1000-ED-560-041+GAUL	560	4030	410	2950	2796	5810	1400	10700
VACON1000-ED-600-041+GAUL	600	4320	440	3170	2796	5810	1400	10950
VACON1000-ED-640-041+GAUL	640	4610	469	3370	2796	5810	1400	11450
VACON1000-ED-680-041+GAUL	680	4890	498	3580	2796	5810	1400	11950
Nominal voltage 6000 V (30-pulse, 5 power cell per phase, 60 Hz)								
VACON1000-ED-025-060+GAUL	25	250	18	180	2796	2310	1250	3450
VACON1000-ED-036-060+GAUL	36	370	26	270	2796	2310	1250	3500
VACON1000-ED-040-060+GAUL	40	410	29	300	2796	2310	1250	3525
VACON1000-ED-050-060+GAUL	50	510	36	370	2796	2310	1250	3550
VACON1000-ED-060-060+GAUL	60	620	44	450	2796	2310	1250	3575
VACON1000-ED-070-060+GAUL	70	720	51	530	2796	2310	1250	3600
VACON1000-ED-080-060+GAUL	80	830	58	600	2888	2710	1250	4800
VACON1000-ED-090-060+GAUL	90	930	66	680	2888	2710	1250	4850
VACON1000-ED-100-060+GAUL	100	1030	73	750	2888	2710	1250	4900
VACON1000-ED-110-060+GAUL	110	1140	80	830	2888	2710	1250	4925
VACON1000-ED-120-060+GAUL	120	1240	88	910	2888	2710	1250	4950
VACON1000-ED-140-060+GAUL	140	1450	102	1060	2888	2710	1250	5000
VACON1000-ED-150-060+GAUL	150	1550	110	1140	2888	3010	1250	5850
VACON1000-ED-170-060+GAUL	170	1760	124	1280	2888	3010	1250	5875
VACON1000-ED-180-060+GAUL	180	1870	132	1370	2888	3010	1250	5900
VACON1000-ED-190-060+GAUL	190	1970	139	1440	2888	3010	1250	5950
VACON1000-ED-200-060+GAUL	200	2070	146	1510	2888	3010	1250	5975
VACON1000-ED-210-060+GAUL	210	2180	154	1600	2888	3010	1250	5975
VACON1000-ED-215-060+GAUL	215	2230	157	1630	2888	3010	1250	6000
VACON1000-ED-223-060+GAUL	223	2310	163	1690	2796	4860	1400	7100
VACON1000-ED-236-060+GAUL	236	2450	173	1790	2796	4860	1400	7400
VACON1000-ED-250-060+GAUL	250	2590	183	1900	2796	5160	1400	7700
VACON1000-ED-263-060+GAUL	263	2730	192	1990	2796	5160	1400	7800
VACON1000-ED-276-060+GAUL	276	2860	202	2090	2796	5160	1400	8000
VACON1000-ED-290-060+GAUL	290	3010	212	2200	2796	5160	1400	8300
VACON1000-ED-305-060+GAUL	305	3160	223	2310	2796	5160	1400	8600
VACON1000-ED-325-060+GAUL	325	3370	238	2470	2796	5160	1400	8800
VACON1000-ED-350-060+GAUL	350	3630	256	2660	2796	5160	1400	9200
VACON1000-ED-370-060+GAUL	370	3840	271	2810	2796	6010	1400	10200
VACON1000-ED-390-060+GAUL	390	4050	286	2970	2796	6410	1400	10500
VACON1000-ED-415-060+GAUL	415	4310	304	3150	2796	6410	1400	11000
VACON1000-ED-438-060+GAUL	438	4550	321	3330	2796	6410	1400	11500
VACON1000-ED-460-060+GAUL	460	4780	337	3500	2796	6410	1400	11950
VACON1000-ED-483-060+GAUL	483	5010	354	3670	2796	6410	1400	12250
VACON1000-ED-507-060+GAUL	507	5260	371	3850	2796	6410	1400	12650
VACON1000-ED-532-060+GAUL	532	5520	390	4050	2796	6610	1400	13150
VACON1000-ED-560-060+GAUL	560	5810	410	4260	2796	6610	1400	13750

Height excluding cooling fan is 2328 mm

Power rating (UL variant)

AC drive type	Low overload rating 110% (Variable torque)		High overload rating 150% (Constant torque)		Cabinet dimensions			Weight
	I _L [A]	S [kVA]	I _{HD} [A]	S [kVA]	HxWxD [mm]			[kg]
Nominal voltage 6000 V (30-pulse, 5 power cell per phase, 60 Hz)								
VACON1000-ED-588-060+GAUL	588	6110	431	4470	2796	6610	1400	14100
VACON1000-ED-617-060+GAUL	617	6410	452	4690	2796	6610	1400	14500
VACON1000-ED-648-060+GAUL	648	6730	475	4930	2796	7210	1600	15100
VACON1000-ED-680-060+GAUL	680	7060	498	5170	2796	7210	1600	15500
Nominal voltage 6300 V (36-pulse, 6 power cell per phase, 60 Hz)								
VACON1000-ED-025-063+GAUL	25	270	18	190	2796	2310	1250	3600
VACON1000-ED-030-063+GAUL	30	310	22	220	2796	2310	1250	3625
VACON1000-ED-036-063+GAUL	36	370	26	270	2796	2310	1250	3625
VACON1000-ED-045-063+GAUL	45	460	33	340	2796	2310	1250	3650
VACON1000-ED-050-063+GAUL	50	510	36	370	2796	2310	1250	3650
VACON1000-ED-065-063+GAUL	65	670	47	480	2796	2310	1250	3675
VACON1000-ED-070-063+GAUL	70	720	51	530	2796	2310	1250	3700
VACON1000-ED-085-063+GAUL	85	880	62	640	2888	2710	1250	4950
VACON1000-ED-100-063+GAUL	100	1030	73	750	2888	2710	1250	5000
VACON1000-ED-115-063+GAUL	115	1190	84	870	2888	2710	1250	5050
VACON1000-ED-125-063+GAUL	125	1290	91	940	2888	2710	1250	5075
VACON1000-ED-140-063+GAUL	140	1450	102	1060	2888	2710	1250	5100
VACON1000-ED-160-063+GAUL	160	1660	117	1210	2888	3010	1250	5950
VACON1000-ED-170-063+GAUL	170	1760	124	1280	2888	3010	1250	5975
VACON1000-ED-180-063+GAUL	180	1870	132	1370	2888	3010	1250	6000
VACON1000-ED-190-063+GAUL	190	1970	139	1440	2888	3010	1250	6050
VACON1000-ED-205-063+GAUL	205	2130	150	1550	2888	3010	1250	6075
VACON1000-ED-210-063+GAUL	210	2180	154	1600	2888	3010	1250	6075
VACON1000-ED-215-063+GAUL	215	2230	157	1630	2888	3010	1250	6100
VACON1000-ED-230-063+GAUL	230	2390	168	1740	2796	5410	1400	8300
VACON1000-ED-250-063+GAUL	250	2590	183	1900	2796	5410	1400	8800
VACON1000-ED-265-063+GAUL	265	2750	194	2010	2796	5410	1400	9000
VACON1000-ED-285-063+GAUL	285	2960	209	2170	2796	5410	1400	9300
VACON1000-ED-305-063+GAUL	305	3160	223	2310	2796	5410	1400	9800
VACON1000-ED-325-063+GAUL	325	3370	238	2470	2796	5410	1400	10000
VACON1000-ED-350-063+GAUL	350	3630	256	2660	2796	5810	1400	10700
VACON1000-ED-378-063+GAUL	378	3920	277	2870	2796	6810	1400	11650
VACON1000-ED-408-063+GAUL	408	4240	299	3100	2796	6810	1400	12250
VACON1000-ED-438-063+GAUL	438	4550	321	3330	2796	6810	1400	13050
VACON1000-ED-475-063+GAUL	475	4930	348	3610	2796	7010	1400	13750
VACON1000-ED-515-063+GAUL	515	5350	377	3910	2796	7010	1400	14550
VACON1000-ED-560-063+GAUL	560	5810	410	4260	2796	7610	1600	15050
VACON1000-ED-600-063+GAUL	600	6230	440	4570	2796	7610	1600	16250
VACON1000-ED-640-063+GAUL	640	6650	469	4870	2796	7610	1600	16950
VACON1000-ED-680-063+GAUL	680	7060	498	5170	2796	9610	1400	18550
Nominal voltage 6600 V (36-pulse, 6 power cell per phase, 60 Hz)								
VACON1000-ED-025-066+GAUL	25	280	18	200	2796	2310	1250	3650
VACON1000-ED-032-066+GAUL	32	360	23	260	2796	2310	1250	3675
VACON1000-ED-036-066+GAUL	36	410	26	290	2796	2310	1250	3700
VACON1000-ED-040-066+GAUL	40	450	29	330	2796	2310	1250	3725
VACON1000-ED-050-066+GAUL	50	570	36	410	2796	2310	1250	3750
VACON1000-ED-055-066+GAUL	55	620	40	450	2796	2310	1250	3775
VACON1000-ED-065-066+GAUL	65	740	47	530	2796	2310	1250	3775
VACON1000-ED-070-066+GAUL	70	800	51	580	2796	2310	1250	3800
VACON1000-ED-080-066+GAUL	80	910	58	660	2888	2710	1250	5050
VACON1000-ED-100-066+GAUL	100	1140	73	830	2888	2710	1250	5100
VACON1000-ED-120-066+GAUL	120	1370	88	1000	2888	2710	1250	5150
VACON1000-ED-140-066+GAUL	140	1600	102	1160	2888	2710	1250	5200
VACON1000-ED-155-066+GAUL	155	1770	113	1290	2888	3010	1250	6050
VACON1000-ED-160-066+GAUL	160	1820	117	1330	2888	3010	1250	6075
VACON1000-ED-180-066+GAUL	180	2050	132	1500	2888	3010	1250	6100

Height excluding cooling fan is 2328 mm

Power rating (UL variant)

AC drive type	Low overload rating 110% (Variable torque)		High overload rating 150% (Constant torque)		Cabinet dimensions			Weight
	I _L [A]	S [kVA]	I _{HD} [A]	S [kVA]	HxWxD [mm]			[kg]
Nominal voltage 6600 V (36-pulse, 6 power cell per phase, 60 Hz)								
VACON1000-ED-200-066+GAUL	200	2280	146	1660	2888	3010	1250	6150
VACON1000-ED-210-066+GAUL	210	2400	154	1760	2888	3010	1250	6175
VACON1000-ED-215-066+GAUL	215	2450	157	1790	2888	3010	1250	6200
VACON1000-ED-230-066+GAUL	230	2620	168	1920	2796	5410	1400	8300
VACON1000-ED-250-066+GAUL	250	2850	183	2090	2796	5410	1400	8800
VACON1000-ED-265-066+GAUL	265	3020	194	2210	2796	5410	1400	9000
VACON1000-ED-285-066+GAUL	285	3250	209	2380	2796	5410	1400	9300
VACON1000-ED-305-066+GAUL	305	3480	223	2540	2796	5410	1400	9800
VACON1000-ED-325-066+GAUL	325	3710	238	2720	2796	5410	1400	10000
VACON1000-ED-350-066+GAUL	350	4000	256	2920	2796	5810	1400	10700
VACON1000-ED-378-066+GAUL	378	4320	277	3160	2796	6810	1400	11650
VACON1000-ED-408-066+GAUL	408	4660	299	3410	2796	6810	1400	12250
VACON1000-ED-438-066+GAUL	438	5000	321	3660	2796	6810	1400	13050
VACON1000-ED-475-066+GAUL	475	5420	348	3970	2796	7010	1400	13750
VACON1000-ED-515-066+GAUL	515	5880	377	4300	2796	7010	1400	14550
VACON1000-ED-560-066+GAUL	560	6400	410	4680	2796	7610	1600	15050
VACON1000-ED-600-066+GAUL	600	6850	440	5020	2796	7610	1600	16250
VACON1000-ED-640-066+GAUL	640	7310	469	5360	2796	7610	1600	16950
VACON1000-ED-680-066+GAUL	680	7770	498	5690	2796	9610	1400	18550
Nominal voltage 6900V (36-pulse, 6 power cell per phase, 60 Hz)								
VACON1000-ED-025-069+GAUL	25	290	18	210	2796	2310	1250	3750
VACON1000-ED-032-069+GAUL	32	380	23	270	2796	2310	1250	3800
VACON1000-ED-036-069+GAUL	36	430	26	310	2796	2310	1250	3825
VACON1000-ED-040-069+GAUL	40	470	29	340	2796	2310	1250	3850
VACON1000-ED-050-069+GAUL	050	590	36	430	2796	2310	1250	3875
VACON1000-ED-060-069+GAUL	060	710	44	520	2796	2310	1250	3900
VACON1000-ED-065-069+GAUL	065	770	47	560	2796	2310	1250	3900
VACON1000-ED-070-069+GAUL	070	830	51	600	2796	2310	1250	3900
VACON1000-ED-080-069+GAUL	080	950	58	690	2888	2710	1250	5300
VACON1000-ED-100-069+GAUL	100	1190	73	870	2888	2710	1250	5300
VACON1000-ED-120-069+GAUL	120	1430	88	1050	2888	2710	1250	5300
VACON1000-ED-140-069+GAUL	140	1670	102	1210	2888	2710	1250	5300
VACON1000-ED-150-069+GAUL	150	1790	110	1310	2888	3010	1250	6100
VACON1000-ED-160-069+GAUL	160	1910	117	1390	2888	3010	1250	6150
VACON1000-ED-180-069+GAUL	180	2150	132	1570	2888	3010	1250	6200
VACON1000-ED-190-069+GAUL	190	2270	139	1660	2888	3010	1250	6275
VACON1000-ED-200-069+GAUL	200	2390	146	1740	2888	3010	1250	6275
VACON1000-ED-210-069+GAUL	210	2500	154	1840	2888	3010	1250	6300
VACON1000-ED-215-069+GAUL	215	2560	157	1870	2888	3010	1250	6300
VACON1000-ED-230-069+GAUL	230	2740	168	2000	2796	5410	1400	8500
VACON1000-ED-250-069+GAUL	250	2980	183	2180	2796	5410	1400	9000
VACON1000-ED-265-069+GAUL	265	3160	194	2310	2796	5410	1400	9200
VACON1000-ED-285-069+GAUL	285	3400	209	2490	2796	5410	1400	9500
VACON1000-ED-305-069+GAUL	305	3640	223	2660	2796	5410	1400	10000
VACON1000-ED-325-069+GAUL	325	3880	238	2840	2796	5810	1400	10300
VACON1000-ED-350-069+GAUL	350	4180	256	3050	2796	5810	1400	11000
VACON1000-ED-378-069+GAUL	378	4510	277	3310	2796	6810	1400	11950
VACON1000-ED-408-069+GAUL	408	4870	299	3570	2796	7010	1400	12550
VACON1000-ED-438-069+GAUL	438	5230	321	3830	2796	7010	1400	13350
VACON1000-ED-475-069+GAUL	475	5670	348	4150	2796	7010	1400	14250
VACON1000-ED-515-069+GAUL	515	6150	377	4500	2796	7010	1400	15050
VACON1000-ED-560-069+GAUL	560	6690	410	4890	2796	7610	1600	16050
VACON1000-ED-600-069+GAUL	600	7170	440	5250	2796	7610	1600	16650
VACON1000-ED-640-069+GAUL	640	7640	469	5600	2796	9610	1400	18050
VACON1000-ED-680-069+GAUL	680	8120	498	5950	2796	9610	1400	19050

Height excluding cooling fan is 2328 mm

Options

Options	Description
Degree of protection	
+IP42	Protection rating IP42
Input frequency	
+LS50	50 Hz input frequency
+LS60	60 Hz input frequency
I/O options	
+IAF1	Synchronous transfer I/O (8DI/8DO)
+IBF2	Advanced control module
+ICF3	Excitator control I/O
+IDF4	PID control module
+IEF5	Motor temperature module (8 channels)
I/O PLC options	
+IAP1	PLC DI module (16 DI)
+IBP2	PIC DIO module (8DI/8DO)
+ICP3	PLC AIO module (2AI/4AO)
+IDP4	Motor temperature module (8 channels)
Fieldbus options	
+S_E2	Modbus RTU
+S_E5	PROFIBUS DP-V0
+S_E6	CANopen
+S_E7	DeviceNet™
+S_EC	EtherCAT
+S_EI	Modbus TCP
+S_EL	POWERLINK
+S_EN	ControNet™
+S_EP	PROFINET I/O
+S_EQ	EtherNet/IP™
User interface	
+MHMI	HMI 10"
System firmware	
+F101	Asynchronous Motor
+F102	Synchronous Motor (external exciter)
Cell bypass	
+PPCB	Power cell bypass
Cell redundancy*	
+PPCR	Power cell redundancy
Cabinet bypass*	
+PMBP	Manual motor bypass
+PABP	Automatic motor bypass
+PSBP	Synchronous transfer (1 motor only)
+PSB2	Engineered synchronous transfer
Input devices*	
+PSTC	Start-up cabinet available for drives >215 A
Output devices*	
+POCK	Reactor for synchronous transfer
+PODU	dU/dt filter for cable <2000 m

*If this option is selected it could impact the overall dimensions and weight of the product.

Options	Description
Cabinet options	
+QDFR	Cooling fan redundancy
+QDEX	External cooling fan supply
+QSPD	Surge protection device (standard for UL, optional for IEC variants)
+QT01	Control power without heater XFMR
+QT02	Control power with heater XFMR
Mechanical options	
+MHET	Heater + Thermostat
+MHEH	Heater + Humidity sensor
+MMKI	Mechanical key interlock (standard for UL, optional for IEC variants)
Input voltage options*	
+I023	Input voltage: 2300 V
+I024	Input voltage: 2400 V
+I030	Input voltage: 3000 V
+I033	Input voltage: 3300 V
+I040	Input voltage: 4000 V
+I041	Input voltage: 4160 V
+I042	Input voltage: 4200 V
+I048	Input voltage: 4800 V
+I050	Input voltage: 5000 V
+I060	Input voltage: 6000 V
+I063	Input voltage: 6300 V
+I066	Input voltage: 6600 V
+I069	Input voltage: 6900 V
+I072	Input voltage: 7200 V
+I084	Input voltage: 8400 V
+I100	Input voltage: 10000 V
+I110	Input voltage: 11000 V
+I114	Input voltage: 11400 V
+I120	Input voltage: 12000 V
+I124	Input voltage: 12400 V
+I132	Input voltage: 13200 V
+I138	Input voltage: 13800 V
Environment	
+THAL	High altitude, >2000 m above sea level
+T50C	50° C ambient temperature operation
Seismic zone	
+SZ04	Zone 4
Factory acceptance test	
+QFAT	FAT
+QFNO	No-load FAT

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