Variable frequency drives

Vector V810

Professional vector variable frequency drives for heavy duty applications

Information catalog

VYBO Electric

SOLUTIONS FOR INDUSTRY

PROFIBUS®

Modbus

CLOSED LOOP CONTROL

CANopen®

Variable frequency drives

Vector V810

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V810


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SOLUTIONS FOR INDUSTRY

Quality management and certificates

VYBO Electric is a modern High-tech energy saving company that pays high attention to quality, environment, safety and precision and efficiency of work and energy in production. Therefore, it holds a lot of certificates and quality control systems. **Our priority is quality control.**

Basic certificates include:

ISO9001

The primary task of the ISO 9001 standard is to focus on system management and quality management in the organization. The satisfaction of the customer and the fulfillment of his requirements, which are specified in contracts, orders, or technical drawings, are in the first place. The quality management system is linked to all processes in the company. The standard focuses on the management of human and financial resources, on the stability of infrastructure, including buildings, transport, hardware, software and other communication or information technologies. An important part is also the planning of production and services, the management of the purchasing process, but also the management of non-conforming products.

ISO14001

The main priority of the ISO 14001 standard is to identify and understand the environmental aspects and activities that are related to the entire infrastructure of the company and, based on this, to regulate the environmental impact on the environment.

In its scope, the ISO 14001 standard creates the conditions for determining environmental goals and plans, the fulfillment of which is examined at regular intervals by top management and also by an independent body during internal audits.

This standard is intended for all organizations and companies that consider environmental protection as their primary goal.

The benefit of the standard for society is mainly:

- control over the environmental impact on the environment
- control over produced emissions and waste
- saving material and energy
- prevention of accidents
- compliance of the company's activities with legal requirements
- zero fines for environmental behavior
- creation of a good reputation and prestige of the company

The ISO 45001

Specification (formerly known as OHSAS 18001) is an internationally recognized standard that declares compliance with the principles of a safe enterprise, managing risks at work and protecting the health of workers during work. It does not only concern danger and accidents, but also emphasizes other aspects such as the good condition and mental well-being of the employee.

The certificate is held in Slovakia as STN ISO 45001:2019 and is under the title Management systems of safety and health protection at work. Requirements with guidance for use. It replaces the STN OHSAS 18001 standard.

ISO50001

Energy management systems Energy efficiency help organizations save money, save energy resources and also help to prevent climate change. ISO 50001 encourages organizations in all sectors to use energy more efficiently through the development of an energy management system. The international standard ISO 50001: 2011 specifies the requirements for building, maintaining and improving the energy system. It aims to enable organizations to implement a systematic approach that will help achieve lasting improvements in energy efficiency, energy use and consumption.

Variable frequency drives

Vector V810

- ► CLOSED LOOP VECTOR CONTROL
- ► MAXIMUM EQUIPMENT
- ► PROFIBUS

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Variable frequency drives

Vector V810

V810 series frequency converters are designed for the most demanding and complicated professional applications. These are vector frequency converters with a wide range of applications. They handle an overload of up to 180% for 3 seconds and an overload of 150% for 60 seconds. This is the highest class of frequency converters, which are mass-produced up to 1000 kW. They are designed to handle huge loads. A large performance range with different frequency converter configurations and many additional options allows the use of one platform for many requirements.

Variable frequency drive V810

FUNCTIONS

- Three-phase frequency converter power supply voltage 3 x 400 V and 3 x 690 V
- Range of output frequency 0.01 to 3200 Hz
- Torque boost function of the electric motor by up to 30%
- V810 is suitable for asynchronous control and synchronous motors
- Standard built-in brake unit
- Physical interface RS 485 serial built in
- MODBUS RTU communication interface, from 5.5 kW PROFIBUS-DP
- Safety function EMS STOP for immediate stopping
- Function for connecting PTC protection or motor thermal contact
- Built-in port for external placement control panel using a cable
- Built-in PID, PLC, AVR
- 8 digital inputs, 2 analog inputs are integrated inputs -10 / +10 V; 0-10 V and 4-20 mA (or 0 to 20 mA)

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Most often, V810 is used to control fan drives, pumps, centrifuges, gearboxes, to drive machines in the textile, ceramic, food industry, etc.

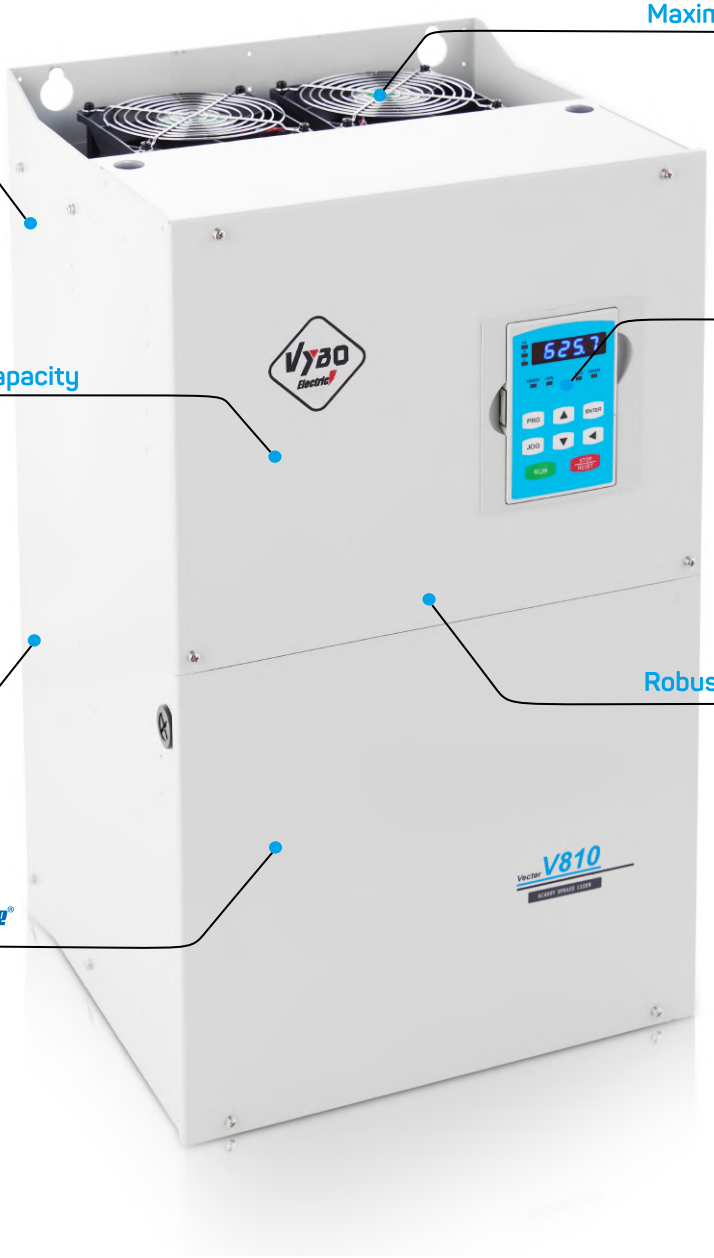
Use in industry

FUNCTIONS

- pumps
- air conditioning
- textiles
- grocery store
- electric transmissions
- ceramics
- grinders
- centrifugal machines
- cutters
- diving machines
- cutting machines

Variable frequency drives

Vector V810



SOLUTIONS FOR INDUSTRY

General technical parameters for all types of V810

Power supply	Input voltage range: 1 x 230 V AC ± 15% 3 x 400 V AC ± 15% 3 x 690 V AC ± 15% Power frequency range: 47 to 63 Hz
Control mode	**V/F** scalar control **SFVC** vector with open circuit **CLVC** vector control
Maximum frequency	SFVC, CLVC vector control: 0 - 320 Hz V/F scalar control: 0 - 3200 Hz
Carrier frequency	1 - 16 kHz The carrier frequency is automatically set based on the load characteristic.
Input frequency resolution	Digital setting 0.01 Hz Analog setting: maximum frequency x 0.025%
Initial torque	G type: 0.5 Hz / 150 % (SFVC) P type: 0.5 Hz / 180 % (CLVC) P type: 0.5 Hz / 100 %
Speed range	1:100 (SFVC) 1:1000 (CLVC)
Speed stability	± 0.5% (SFVC) ± 0.02% (CLVC)
Torque control accuracy	± 5% (CLVC)
Overloadability	G type: 60s for 150% of rated current, 3s for 180% of rated current. P type: 60s for 120% of rated current, 3s for 150% of rated current.
Increase torque	Auto-boost or user manual increment 0.1% to 30.0%

General technical parameters for all types of V810

V/F curve	Linear V/F curve Multipoint V/F curve N-voltage V / F curve (multiple of 1.2-voltage, 1.4-voltage, 1.6-voltage, 1.8-voltage, adjusted)
V/F separation	Two types: full separation; half separation
Ramp modes	Linear ramp S-curve ramp 4 groups of acceleration / deceleration times with a range of 0.0-6500.0 s
Input terminals	8 digital inputs, binary ON / OFF inputs, 1 terminal X5 can support high speed pulse input. All terminals have have optional PNP or NPN 2 analog inputs, one of which FIV supports -10 V / +10 V; or a 0-10 V input and the second FIC supports a 0-10V or 0-20mA (4-20 mA) input.
Output terminals	1 Programmable open collector output: provides 1 output terminal (open collector output or high speed pulse output) 2 relay outputs, 2 analog outputs: FOV and FOC with optional 0 – 20 mA (4 – 20 mA) or 0 – 10 V output
PG cards	The drive is equipped with a port for PG cards (for encoder), or PG cards for use with a resolver, etc.
DC braking	Braking frequency: 0.0 Hz to maximum frequency Braking time: 0.0-36.0 s Braking current value: 0.0% -100.0%
Brake unit	Models up to 18.5 kW have a built-in brake unit as standard.
Control in JOG mode (stepping)	JOG frequency range: 0.00-50.00 Hz JOG acceleration / deceleration time: 0.0-6500.0 s
Implem. more preset speeds	Implemented up to 16 speeds using a simple PLC function or a combination of X end states.

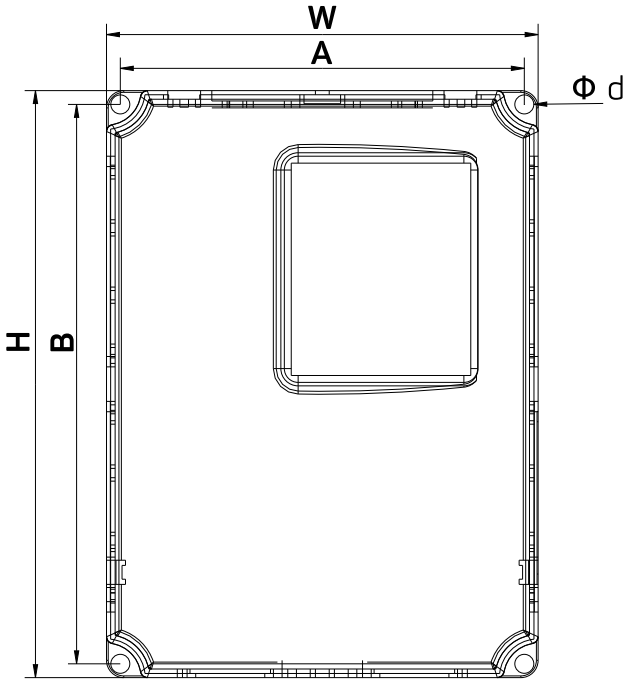
General technical parameters for all types of V810

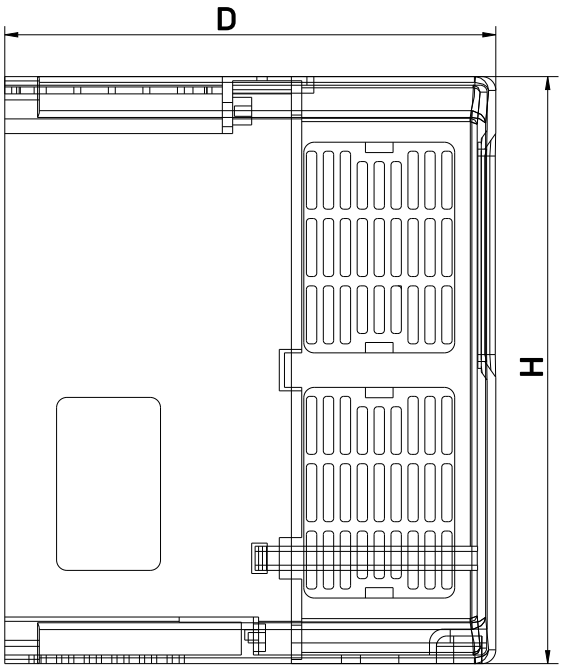
PTC	Input for PTC motor or thermal contact protection.
Built-in PID regulator	Facilitates a process-controlled closed-loop control system.
Automatic AVR voltage regulation	It can automatically maintain a constant output voltage when the supply voltage changes.
Overvoltage and overcurrent control	Current and voltage are automatically limited during operation to prevent frequent tripping due to overvoltage and overcurrent.
Torque and steering limitation	It can automatically limit torque and prevent frequent overcurrent changes during operation.
EMS STOP security feature	Emergency stop system: in an emergency, the drive stops immediately after activating EMS STOP.
Fast current limit	Helps prevent common errors due to AC motor overcurrent
High performance	AC motor control is performed by high-performance vector current control technology.
Time Management	Time range: 0.0-6500.0 minutes
Communication	MODBUS RTU, PROFIBUS-DP (from 5,5 kW)
Boot Command Channel	Depending on the panel, control terminals, the serial communication port can be switched in many ways
Frequency source	10 types of frequencies, given by digital analog voltage analog current, pulse, serial port, X8, PID, can be switched in many ways
Auxiliary frequency source	10 kinds of frequencies, micro adjustment can be easily implemented, frequency synthesizer
LED display	Displays parameters
Lock keys and select features	Can block buttons partially or completely and define the range of functions of some buttons to prevent malfunctions.
Protection mode	Motor short-circuit detection, output phase loss protection, overcurrent protection, overvoltage protection, live protection, overheat protection and overload protection.

General technical parameters for all types of V810

EMC (compatibility)	IE 61000-4-6; IEC 61000-4-4; IEC 61000-4-11; IEC 61000-4-5
Standards	EN/IEC 61800-3:2017; C1, which is suitable for the 1st environment; EN/IEC 61800-3:2017; C2, which is suitable for the 1st environment;
Installing in an environment	Install indoors, avoid direct sunlight, salt, dust, corrosive or flammable gas, smoke, steam. Resistance to chemical contaminants class 3C3 EN/IEC 60721-3-3 Dust pollution resistance 3S3EN/IEC 60721-3-3.
Height above sea level	Under 1000 meters above sea level. (reduce the power level when used above 1000 meters above sea level.)
Ambient temperature	– 10 ° C to 40 ° C (reduce power level if ambient temperature is between 40 ° C to 50 ° C)
Humidity	Less than 95% relative humidity, no condensation IEC 60068-2-3
Vibration	Less than 5.9 m / s2 (0.6 g) IEC 60068-2-6
Storage temperature	- 20 °C to + 60°C

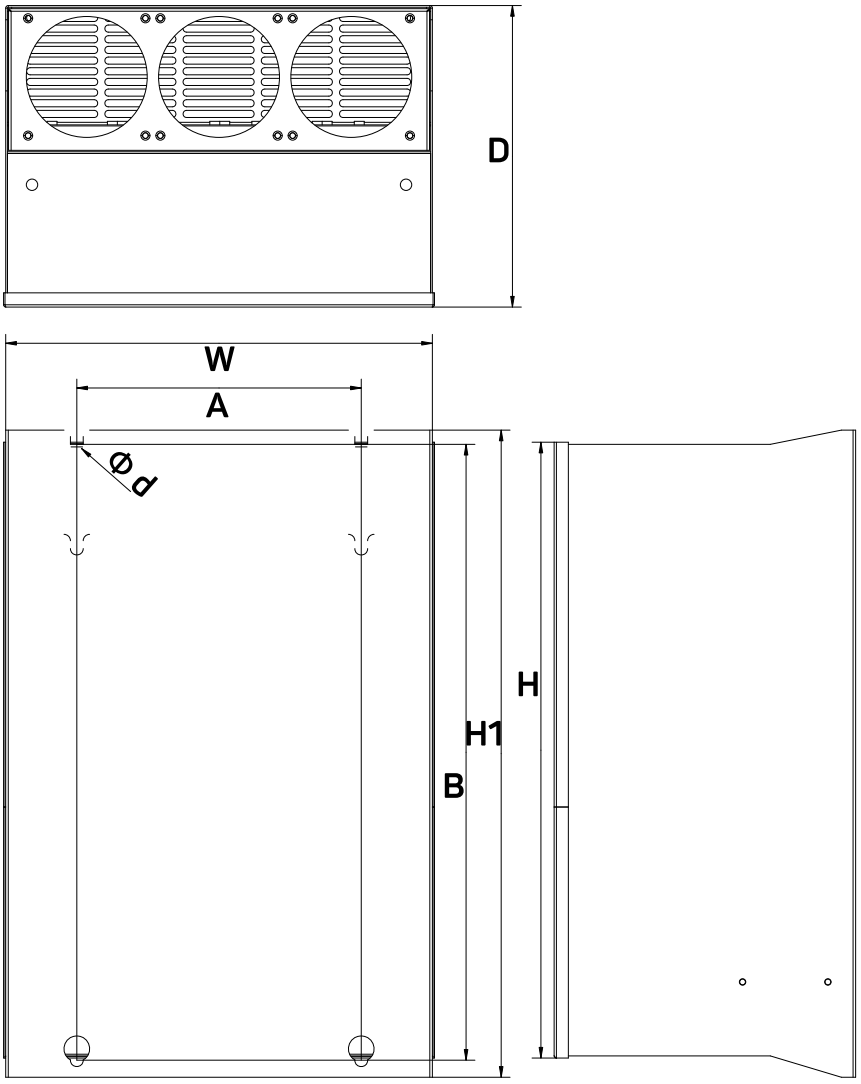
Dimensions for 0,4 kW - 37 kW





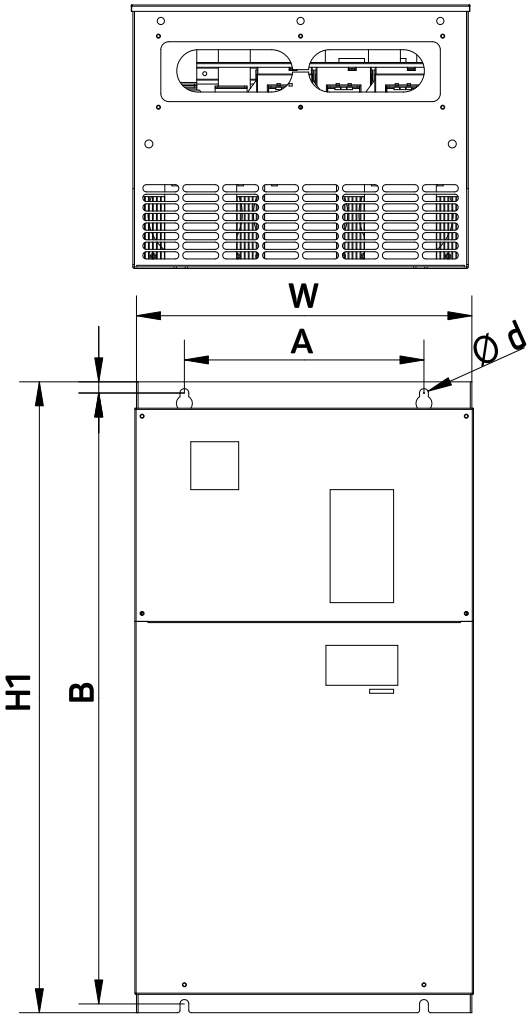
Model	Outline dimensions				Installation dimensions			In mm	
	W	H	H1	D	A	B	Ø d	Installation	Notes
V810-2S0004	125	170	-	140	117	160	5	On the wall	From plastic
V810-2S0007									
V810-2S00015									
V810-2S00022									
V810-2S00030	120	225	-	143	105	208	5		Partly from plastic
V810-4T0004	125	170	-	140	117	160	5		From plastic
V810-4T0007									
V810-4T0015									
V810-4T0022									
V810-4T0040	120	225	-	142	105	208	5		Partly from plastic
V810-4T0055									
V810-4T0075	185	260	-	170	162	248	6,5		From plastic
V810-4T0110									
V810-4T0150	210	330	-	190	195	310	6,5		Partly from plastic
V810-4T0185									
V810-4T0220	277	410	-	189	262	390	6,5		Metal cabinet
V810-4T0300									
V810-4T0370									

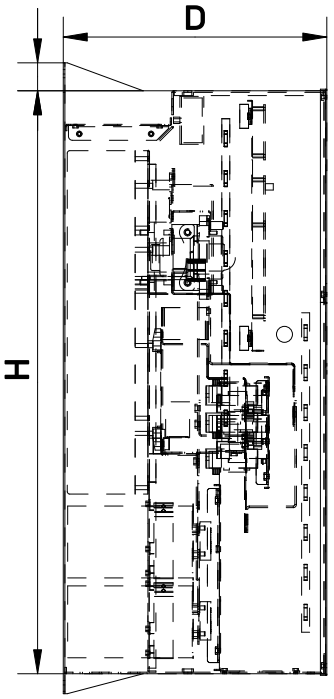
Dimensions for 45 kW - 132 kW



Model	Outline dimensions				Installation dimensions			In mm	
	W	H	H1	D	A	B	Ø d	Installation	Notes
V810-4T0450	300	433	455	212	200	433	9	On the wall	Metal cabinet
V810-4T0550	300	535	560	236	200	538	9		
V810-4T0750									
V810-4T0900	342	550	576	260	270	560	9		New
V810-4T1100									
V810-4T1320									

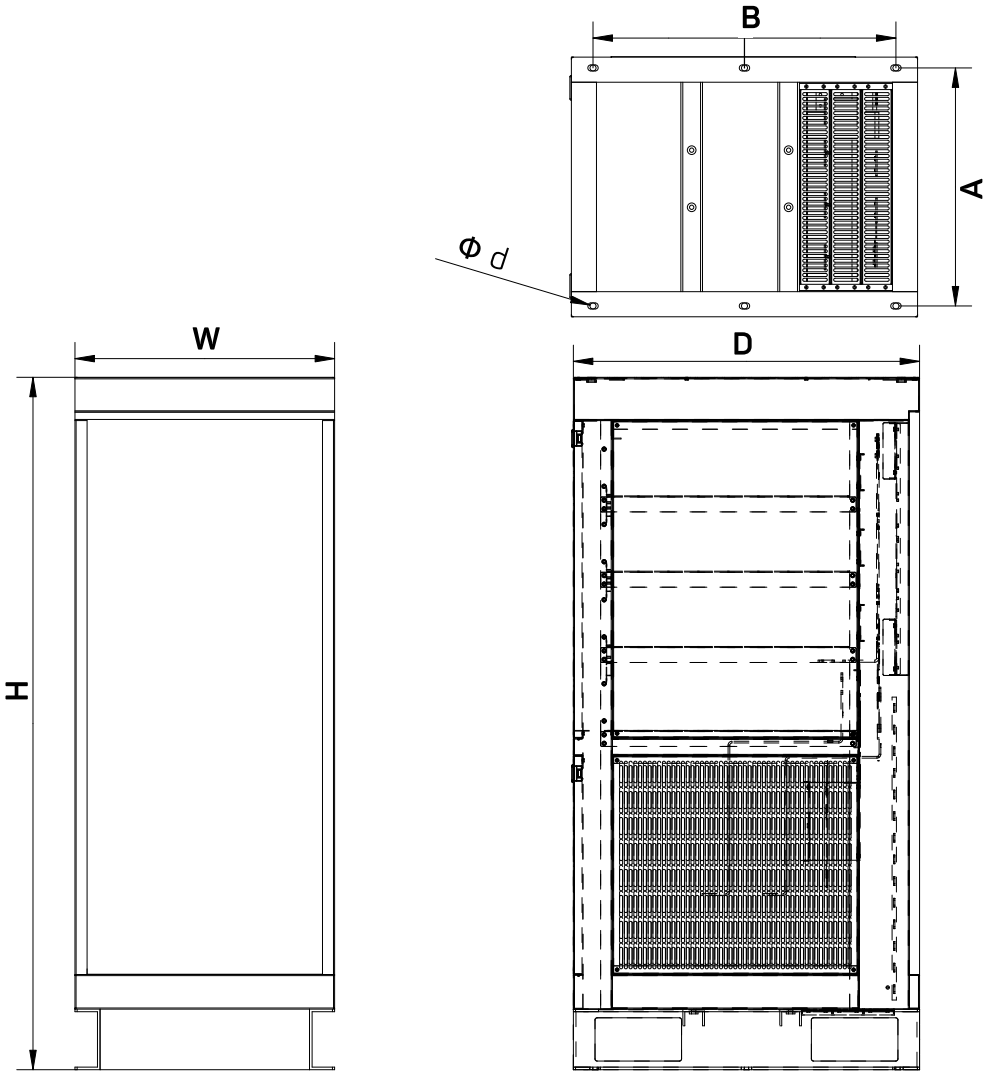
Dimensions for 160 kW - 350 kW





Model	Outline dimensions (wall)				Installation dimensions (wall)			In mm	
	W	H	H1	D	A	B	Ø d	Installation	Notes
V810-4T1600	420	730	790	330	300	765	11	Wall/Switchboard	Metal cabinet
V810-4T1850									
V810-4T2000	533	800	860	335	400	836	11		
V810-4T2500									
V810-4T2800	700	880	940	350	600	916	14		
V810-4T3150									
V810-4T3500									

Dimensions for 400 kW and higher



Model	Outline dimensions				Installation dimensions			In mm	
	W	H	H1	D	A	B	Ø d	Installation	Notes
V810-4T4000	600	1600	-	800	550	700	14	Switchboard	Metal cabinet
V810-4T4500									
V810-4T5000									
V810-4T5600	650	1600	-	800	600	700	14		
V810-4T6300									
V810-4T7100									
V810-4T8000	700	2200	-	1000	650	900	14		
V810-4T9000									
V810-4T10000									

Dimensions for 3-phase models 690 V

Model	Outline dimensions			Installation dimensions		
	W	H	D	A	B	Ø d
V810-6T0150	410	277	189	390	262	6.5
V810-6T0185						
V810-6T0220						
V810-6T0300						
V810-6T0370						
V810-6T0450						
V810-6T0550						
V810-6T0750	595	300	236	573	200	9
V810-6T0900						
V810-6T1100						
V810-6T1320	620	380	290	595	250	9
V810-6T1600						
V810-6T1850	880	380	358	840	250	13
V810-6T2000						
V810-6T2200						
V810-6T2500						
V810-6T2800						
V810-6T3150	995	630	350	971	500	11
V810-6T3500						
V810-6T4000						
V810-6T4500	Wall:1040 Switch:1515	680	400	Wall:1016 Switch:550	Wall:520 Switch:300	Wall:11 Switch:13
V810-6T5000						
V810-6T5600						
V810-6T6300	1800	650	920	550	800	17
V810-6T7100						
V810-6T8000	1800	750	920	650	800	17
V810-6T9000						
V810-6T10000	1800	900	920	800	800	17

The size of the control panel for the VFD above 5.5 kW: 141,5 mm * 79,5 mm
The size of the control panel for the VFD under 4 kW: 99,5 mm * 56 mm

Performance parameters of V810 series

Type of VFD V810	Rated output power (kW)	Maximum input current (A)	Rated output current (A)	Recommended motor power (kW)
1PH / 3PH AC 230 V ±15%				
V810-2S0004	0,4	5,4	2,4	0,4
V810-2S0007	0,75	7,2	4,5	0,75
V810-2S0015	1,5	10	7	1,5
V810-2S0022	2,2	16	10	2,2
V810-2S0030	3	23	16	3
3PH / 3PH AC 400 V ±15%				
V810-4T0004	0,4	3,4	1,2	0,4
V810-4T0007	0,75	3,8	2,5	0,75
V810-4T0015	1,5	5	3,7	1,5
V810-4T0022	2,2	5,8	5	2,2
V810-4T0040	4	10	9	4
V810-4T0055	5,5	15	13	5,5
V810-4T0075	7,5	19	17,5	7,5
V810-4T0110	11	26	25	11
V810-4T0150	15	35	32	15
V810-4T0150	18,5	38	37	18,5
V810-4T0220	22	46	45	22
V810-4T0300	30	62	60	30
V810-4T0370	37	76	75	37
V810-4T0450	45	90	90	45
V810-4T0550	55	105	110	55
V810-4T0750	75	140	150	55
V810-4T0900	90	160	176	90
V810-4T1100	110	210	210	110

Performance parameters of series V810

Type of model V810	Rated output power (kW)	Maximum input current (A)	Rated output current (A)	Recommended motor power (kW)
3PH / 3PH AC 400 V ±15%				
V810-4T1100	110	210	210	110
V810-4T1320	132	240	253	132
V810-4T1600	160	290	300	160
V810-4T1850	185	330	340	185
V810-4T2000	200	370	380	200
V810-4T2200	220	410	420	220
V810-4T2500	250	460	470	250
V810-4T2800	280	500	520	280
V810-4T3150	315	580	600	315
V810-4T3500	350	620	640	350
V810-4T4000	400	670	690	400
V810-4T4500	450	790	790	450
V810-4T5000	500	835	860	500
V810-4T5600	560	920	950	560
V810-4T6300	630	1050	1100	630
V810-4T7100	710	1126	1280	710
V810-4T8000	800	1460	1380	800
V810-4T9000	900	1640	1640	900
V810-4T10000	1000	1800	1720	1000

Performance parameters of V810 series

Type of VFD V810	Input voltage (V) 50/60Hz	Power (kW)	Cross section of the voltage cable (mm²)	Recommended input contactor (A)
V810-2S0004	1 phase 1x230 V	0,4	1,5	10
V810-2S0007		0,75	1,5	16
V810-2S0015		1,5	2,5	25
V810-2S0022		2,2	4	32
V810-2S0030		3	4	40
V810-4T0004	3 phase 3x400 V	0,4	1,5	6
V810 -4T0007		0,75	1,5	6
V810-4T0015		1,5	1,5	6
V810-4T0022		2,2	1,5	10
V810-4T0040		4	2,5	16
V810-4T0055		5,5	2,5	20
V810-4T0075		7,5	4	32
V810-4T0110		11	4	32
V810-4T0150		15	6	40
V810-4T0185		18,5	10	50
V810-4T0220		22	10	50
V810-4T0300		30	16	63
V810-4T0370		37	25	100
V810-4T0450		45	25	100
V810-4T0550		55	35	125
V810-4T0750		75	50	160
V810-4T0900		90	70	225
V810-4T1100		110	95	250
V810-4T1320		132	120	315
V810-4T1600		160	120	350
V810-4T1850		185	150	400
V810-4T2000		200	185	500

Performance parameters of V810 series

Type of VFD V810	Input voltage (V) 50/60Hz	Power (kW)	Cross section of the voltage cable (mm^2)	Recommended input contactor (A)
V810-4T2200	3 phase 3x400 V	220	185	500
V810-4T2500		250	240	630
V810-4T2800		280	240	630
V810-4T3150		315	240	800
V810-4T3500		350	2x150	800
V810-4T4000		400	2x185	1000
V810-4T4500		450	2x240	1250
V810-4T5000		500	2x240	1250

Table of suitable braking resistors V810 series

Type of VFD	Braking resistance		Braking unit	Recommended power (kW)
	Resistor power (kW)	Resistance value (Ω) (≥)		
V810-2S0004	80	200	**Built-in**	0,4
V810-2S0007	80	150	**Built-in**	0,75
V810-2S0015	100	70	**Built-in**	1,5
V810-2S0022	100	70	**Built-in**	2,2
V810-2S0030	250	65	**Built-in**	3
V810-4T0004	150,00	300	**Built-in**	0,4
V810-4T0007	150,00	300	**Built-in**	0,75
V810-4T0015	150,00	220	**Built-in**	1,5
V810-4T0022	250,00	200	**Built-in**	2,2
V810-4T0055	300,00	130	**Built-in**	5,5
V810-4T0075	400,00	90	**Built-in**	7,5
V810-4T0110	500,00	65	**Built-in**	11
V810-4T0150	800,00	43	**Built-in**	15
V810-4T0185	1000,00	32	**Built-in**	18,5

Table of suitable braking resistors of V810 series

Type of VFD	Braking resistance		Braking unit	Recommended power (kW)
	Resistor power (kW)	Resistance value (Ω) (≥)		
V810-4T0220	1300,00	25	Optional	22
V810-4T0300	1500,00	25	Optional	30
V810-4T0370	2500,00	16	Optional	37
V810-4T0450	3700,00	12,6	Optional	45
V810-4T0550	4500,00	9,4	External	55
V810-4T0750	5500,00	9,4	External	75
V810-4T0900	7500,00	6,3	External	90
V810-4T1100	4500x2	9,4 x 2	External	110
V810-4T1320	5500x2	9,4 x 2	External	132
V810-4T1600	6500x2	6,3 x 2	External	160
V810-4T1850	16000	2,5	External	185
V810-4T2000	6500x3	6,3 x 3	External	200
V810-4T2200	20000	2,5	External	220
V810-4T2500	22000	2,5	External	250
V810-4T2800	12500x2	2,5*2	External	280
V810-4T3150	14000*2	2,5*2	External	315
V810-4T3500	16000*2	2,5*2	External	350
V810-4T4000	17000*2	2,5*2	External	400
V810-4T4500	14000*3	2,5*3	External	450
V810-4T5000	15000*3	2,5*3	External	500
V810-4T5600	17000*3	2,5*3	External	560
V810-4T6300	20000*3	2,5*3	External	630
V810-4T7100	22000*3	2,5*3	External	710
V810-4T8000	20000*4	2,5*4	External	800
V810-4T9000	20000*4	2,5*4	External	900
V810-4T10000	22000*4	2,5*4	External	1000

Table of main functions

Overloading in ND mode - Normal load (N. Duty)	120% / 60 s
Overloading in HD mode - Heavy load (H. Duty)	150% / 60 s
Control mode V/F scalar control	✓
Open-loop vector SFVC control mode	✓
Closed-loop vector CLVC control mode	✓
Analog inputs	2
Digital inputs	8
Analog outputs	2
Relay outputs	2
Open collector outputs	1
Brake transistor	✓
EMC filter	✓
+10 V output	✓
+24 V output	✓
Input for PTC	✓
Safe Torque Off (STO)	✗
Emergency STOP (EMS)	✓
Integrated Ethernet	✗
Integrated MODBUS RTU	✓
PROFIBUS	od 5,5 kW
PG card for encoder	✓
PID + dry run detection LL + sleep mode SLP + high/low pressure detection HP/LP	✓
PLC inteligent function	✓
External panel connection (normally up to 30 m)	✓
Degree of protection IP 20	✓
Degree of protection IP 65	✗
Change of direction of rotation via external input	✓
Change of direction of rotation from the panel	✓

Comparison of the main functions of VFDs

	A200	A550	V800	V810 ET	V810	V900	X550
Overloading in ND mode - Normal load (N. Duty)	150%/60 s	120%/60 s	120%/60 s	120%/60 s	120%/60 s	120%/60 s	150%/60 s
Overloading in HD mode - Heavy load (H. Duty)	✗	✗	150%/60 s	150%/60 s	150%/60 s	150%/60 s	✗
Control mode V/F scalar control	✓	✓	✓	✓	✓	✓	✓
Open-loop vector SFVC control mode	✗	✗	✓	✓	✓	✓	✗
Closed-loop vector CLVC control mode	✗	✗	✗	✗	✓	✓	✗
Analog inputs	1	1	2	✗	2	2	1
Digital inputs	5	4	6	2	8	6	6/4
Analog outputs	✗	✗	1	✗	1	2	✗
Relay outputs	✗	1	1	✗	2	2	2/1
Open collector outputs	1	✗	1	✗	1	1	✗
Brake transistor	✗	✗	✓	✓	✓	✓	✗
EMC filter	✓	✓	✓	✓	✓	✓	✓
+10 V output	✗	✓	✓	✗	✓	✓	✓
+24 V output	✗	✗	✗	✗	✓	✓	✓
Input for PTC	✗	✓	✓	✗	✓	✓	✓
Safe Torque Off (STO)	✗	✗	✗	✗	✗	✗	✗
Emergency STOP (EMS)	✓	✓	✓	✓	✓	✓	✓
Integrated Ethernet	✗	✗	✗	✓	✗	✗	✗
Integrated MODBUS RTU	✓	✓	✓	✓	✓	✓	✓
PROFINET	✗	✗	✗	✗	✗	✓	✗
PROFIBUS	✗	✗	✗	✗	✓	✗	✗
PG card for encoder	✗	✗	✗	✗	✓	✓	✗
PID + dry run detection LL+sleep mode +high/low pressure detection HP/LP	✓	✓	✓	✓	✓	✓	✓
PLC inteligent function	✗	✓	✓	✓	✓	✓	✓
External panel connection (normally up to 30m)	✓	✓	✓	✗	✓	✓	✓
Degree of protection IP20	✓	✓	✓	✓	✓	✓	✗
Degree of protection IP 65	✗	✗	✗	✗	✗	✗	✓
Change of direction of rotation via external input	✓	✓	✓	✓	✓	✓	✓
Change of direction of rotation from the panel	✓	✗	✗	✗	✓	✓	✗

VYBO Electric

Accessories and modular constructions

AC input choke

The AC input choke should be installed at the input terminal of the inverter and serves to prevent the transmission of harmonic interference generated by the inverter to the power grid, reduce the transmission of harmonic interference to other components from the grid, improve the quality of the power grid, increase power factors, and prevent abnormal voltage fluctuations in the power grid (if the imbalance is greater than 3%); inrush current in the electrical network, stabilization of the waveform and reduction of the influence on the converter.

Input filter

The external EMC input filter between the inverter and the power source not only limits the interference of the inverter caused by the surrounding electromagnetic noise, but also prevents the interference of the surrounding devices by the inverter itself.

DC choke

The DC choke is mainly used on the inverter and rectifier to increase the power factor and filter the interference of pulses, voltage, current and reduce the harmonic interference of the inverter.

Filter on the output side

The task of this filter is to reduce interference generated by high switching frequencies, which are created by IGBT switching and are transmitted by wires. An EMI filter can be selected to limit the noise generated on the output side of the converter and the ground wire.

AC output choke

The AC output choke is mounted on the output terminal of the inverter and serves to limit the discharge current of the connection cable between the inverter and the motor, the degree of accumulation of the PWM wave voltage of the passive inverter, increase the power factor and quality of the electrical network, and stabilize the waveform. When the line from the frequency converter to the motor is a long line (over 20 m), the choke will limit radio frequency interference and leakage current. The choke also reduces motor vibrations caused by inverter switching pulses. At the same time, the choke reduces the effect of wave reflection on the electrical line, especially with longer cable lengths.

Suppression toroid (ferrite core)

This suppression element helps reduce the interference that is radiated from the conductors. It can be used both at the input and at the output of the frequency converter. It is most effective to wind at least three turns of the conductor around the ferrite core. To improve the effect, it is possible to use more toroids in one circuit.

Braking resistance - Dynamic braking

The purpose of dynamic braking using braking resistors is to stop the spinning rotor of an electric motor with a load in a set (mostly very short) time. Connecting a braking resistor also improves the braking capabilities of the frequency converter to prevent overvoltage during deceleration.

Comfortable and compact layout control of the drive in the switchboard

VYBO Electric KINESYSTEM 1 - typical cabinet designs

Component interface to the switchboard

- chokes
- surge protection
- main contactor
- circuit breakers
- motor protection switch
- clamps

SOLUTIONS FOR INDUSTRY

Warehouse stock

We solve

- unit supply
- complete plant supply
- bulk supply for production
- any customer requirements included in our industry
- an online worker specializing in your company
- complete warranty and post-warranty service of LV and HV frequency converters VYBO Electric KineDrive
- call our line 24 hours a day, 365 days a year
- we provide all available documentation for our frequency converters and industrial drives

Solution partner

We provide you with a complete range of frequency converters, services and expertise, resulting in the durability, quality and reliability of our products.

- More than thousands of frequency converters in the widest possible performance spectrum are in stock.
- Immediate availability of frequency converters from 0.01 kW to 710 kW
- Quick availability of high-power frequency converters from 710 kW to 5000 kW
- Length of delivery of stock of standard products within 24 to 48 hours within Central Europe
- We cover the entire range of propulsion technology with our products
- A550 Plus - stock availability
- V800 - stock availability
- V810 - stock availability
- X550 - stock availability
- A200 - stock availability
- High-voltage frequency converters VYBO Electric class Kinedrive HV - fast delivery time

Care of variable frequency drives, care of your business

If the inverter is part of the product you sell or is included in your production process, the priority is its problem-free and reliable operation. A wide range of lifetime services, it has been designedto meet all your expectations for every application.

SOLUTIONS FOR INDUSTRY

Installation and commissioning
The driver can be customized according to the exact requirements that follow from specific applications.

Company

VYBO Electric is a hi-tech manufacturing plant and supplier of industrial electric motors. It is also dedicated to the research and development of frequency converters of its brand and further covers a wide range of products and products. The company is located in the European Union in the Slovak Republic in Spišská Nová Ves in the center of the eastern part of the country. We have extensive experience in the production of electric motors and in the design of electric drives, as well as many years of experience in the aforementioned research and development of frequency converters.

More than 120 years of electrical industry in our region ...

The region has been known for its developed electrotechnical industry and also for the production of electric motors and electrotechnical equipment for more than 120 years. The Slovak Republic is still one of the leading producers of electrical and technical equipment.

Maximum quality, maximum flexibility and super-fast delivery times...

Address

VYBO ELECTRIC a. s.
Radlinského 18
052 01 Spišská Nová Ves
Slovenská republika

tel: +421 944 105 361
e-mail: mv@vyboelectric.eu

www.vyboelectric.com

SOLUTIONS FOR INDUSTRY

BUREAU VERITAS Certification

VYBO Electric a.s.
Radlinského 18, 052 01 Spišská Nová Ves
Slovak Republic

Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

ISO 14001: 2015

Scope of certification

MANUFACTURE AND SALE OF ELECTRIC MOTORS. SALES AND DEVELOPMENT OF VARIABLE FREQUENCY DRIVES.

Original cycle start date:	**18.05.2022**
Expiry date of previous cycle:	**N/A**
Certification Audit date:	**31.03.2022**
Certification cycle start date:	**18.05.2022**

Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: **17.05.2025**

Certificate No. ***SK-U22 055E*** *Version: 1* *Issue date: 18.05.2022*

Certification body address: 5th Floor, 66 Prescot Street, London E1 8HG, United Kingdom
Local office: Plynárenská 7/B, BRATISLAVA 821 09, Slovak Republic

UKAS MANAGEMENT 0008

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization.
To check this certificate validity please call: + 421 2 5341 4165

Page 1 of 1

BUREAU VERITAS

Bureau Veritas Certification

Certificate

Awarded to

VYBO Electric a.s.
Radlinského 18, 052 01 Spišská Nová Ves
Slovak Republic

BUREAU VERITAS CERTIFICATION CZ s.r.o. certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standard detailed below.

Standard

ISO 45001:2018

Scope of supply

MANUFACTURE AND SALE OF ELECTRIC MOTORS. SALES AND DEVELOPMENT OF VARIABLE FREQUENCY DRIVES.

Original Approval Date:	18-05-2022
Expiry date of previous cycle:	N/A
Certification Cycle Start Date:	18-05-2022
Certification Cycle End Date:	17-05-2025

Subject to the continued satisfactory operation of the organisation's Management System, this certificate is valid until: 17-05-2025

To check this certificate validity please call: +420 210 088 215

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.

S 3100

Version 1 Issue Date: 18-05-2022

Certificate Number: CZE - 2200117

MANAGING OFFICE: BUREAU VERITAS CERTIFICATION CZ, s.r.o., Olbrachtova 1, 140 00 Praha 4, Czech Republic

ISSUING OFFICE ADDRESS: BUREAU VERITAS CERTIFICATION CZ, s.r.o., Olbrachtova 1, 140 00 Praha 4, Czech Republic

1/1

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

IAF MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT

SNAS Reg. No. 153/Q-011

TÜV SÜD Slovakia

CERTIFICATE

TÜV SÜD Slovakia s.r.o.
Certification Body for Management Systems
Accredited by SNAS
Certificate on accreditation No. Q-011
certifies that

VYBO Electric a.s.
Radlinského 18
SK – 052 01 Spišská Nová Ves
IČO: 45 537 143

has established and applies
a Quality Management System for

Manufacture and sale of electric motors.
Sales and development of variable frequency drives.

An audit was performed, Report No. **2264/40/22/Q/AS/C**
Proof has been furnished that the requirements
according to

STN EN ISO 9001:2016

are fulfilled. The certificate is valid from **2022-04-14** until **2025-04-13**
Certificate Registration No. **Q 2264-1**

Bratislava, 2022-04-14

TÜV SÜD Slovakia s.r.o.
Certification Body for Management Systems
Member of Group TÜV SÜD
Jašíkova 6, 821 03 Bratislava

F-Q-019/2/6

Certificate SK22/3701

The management system of

VYBO Electric a.s.
Radlinského 18
052 01 Spišská Nová Ves, Slovakia

has been assessed and certified as meeting the requirements of

EN ISO 50001:2018

For the following activities

Production & sales of electric motors.
Sales & development of variable frequency drives.

Further clarifications regarding the scope of this certificate and the applicability of EN ISO 50001:2018 requirements may be obtained by consulting the organisation.

This certificate is valid from 7 April 2022 until 6 April 2025
and remains valid subject to satisfactory surveillance audits.
Recertification audit due a minimum of 60 days
before the expiration date.
Issue 1. Certified with SGS since 7 April 2022

SYSTEM CERTIFICATION ISO 50001 SGS

SNAS Reg. No. 158/R-099

Authorised by

Ing. Róbert Bodnár
Director
SGS Slovakia spol. s r. o.
Kysucká 14, 040 11 Košice, Slovakia
t +421 55 783 61 11, f +421 55 783 61 20, www.sgs.com

Page 1 of 1