

VIBRAVAR



The electronic vibration frequency regulators

VIBRAVAR fully resolves the primary problem of vibration frequency variation in production processes where vibrating machines or systems are used. VIBRAVAR can continuously vary the powering frequency of the electric vibrators from 0 Hz to the maximum value tolerated by the actual vibrator itself.

In brief, VIBRAVAR can be used to:

- start and stop, reverse and continuously vary the operating frequency from zero to top rate within the envisaged range by means of the local control panel or a remote control;
- program starting and stopping times according to specific needs;

Technical features

Input:

Single-phase 200-240V ($\pm 10\%$), 50/60 Hz ($\pm 5\%$), three-phase 380-480V ($\pm 10\%$), 50-60 Hz ($\pm 5\%$).

Output:

0 to 480V voltage rating, frequency from 0 to 400 Hz, sinusoid PWM coded with programmable carrier frequency.

Mechanical protection:

IP20, IP30.

Environmental specifications:

Max 1000 m without derating; ambient temperature from 0° to 50°C; relative humidity from 5 to 95% without condensation.

Certifications:

UL, CSA, EC.

Conformity to the European Directives:

Low Voltage 2006/95/EC, Electromagnetic compatibility 2004/108/EC.

Choice of the VIBRAVAR

Proceed in the following way to choose the right VIBRAVAR:

- find the rated current I_n on the data plate of the electric vibrator you wish to use and multiply it by the number of electric vibrators;
- multiply the result by the safety factor = 1.88;
- choose the type of VIBRAVAR that has the output current (see table) immediately above the calculated current value.

	Code	Description Type	Power rating kW	Input	
				Voltage V	Frequency Hz
single-phase	542600M	VR M0020	0.25	200 - 240 \pm 10%	50/60 Hz \pm 5%
	542601M	VR M0040	0.37	200 - 240 \pm 10%	50/60 Hz \pm 5%
	542602M	VR M0075	0.75	200 - 240 \pm 10%	50/60 Hz \pm 5%
	542603M	VR M015	1.5	200 - 240 \pm 10%	50/60 Hz \pm 5%
	542604M	VR M022	2.2	200 - 240 \pm 10%	50/60 Hz \pm 5%
three-phase	542605A	VR 022	2.2	380 - 480 \pm 10%	50/60 Hz \pm 5%
	542606A	VR 037	4	380 - 480 \pm 10%	50/60 Hz \pm 5%
	542607A	VR 056	5.5	380 - 480 \pm 10%	50/60 Hz \pm 5%
	542608A	VR 075	7.5	380 - 480 \pm 10%	50/60 Hz \pm 5%
	542609A	VR 112	11	380 - 480 \pm 10%	50/60 Hz \pm 5%
	542610A	VR 150	15	380 - 480 \pm 10%	50/60 Hz \pm 5%
	542611A	VR 180	18.5	380 - 480 \pm 10%	50/60 Hz \pm 5%
	542612A	VR 225	22	380 - 480 \pm 10%	50/60 Hz \pm 5%
	542613A	VR 370	30	380 - 480 \pm 10%	50/60 Hz \pm 5%

- select pre-programmed frequencies with the remote control;
- establish frequency variation by means of a signal between 0 and 10 Vd.c., between 0 and 20 mA, or by means of a 5V TTL logic level pulse chain from an external source or by a serial port RS-485;
- reverse the spinning direction at maximum frequency even when the electric vibrators have a high moment of inertia;
- obtain a full check-control both by means of the display on the local panel and via remoted warning signals.

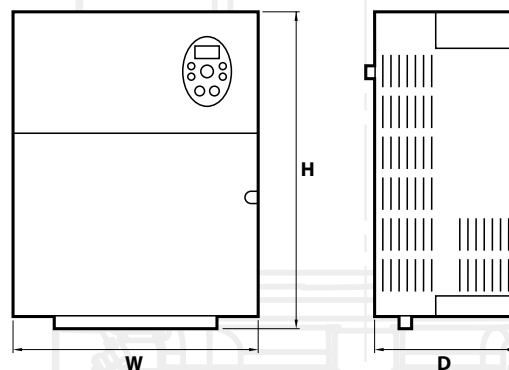
Each VIBRAVAR is equipped with:

- programming and control panel on board;
- protection against power supply voltage variations beyond the indicated tolerance limits for overloads, short-circuits on the output, leakage towards earth and overtemperatures. Faults are indicated on the display.
- no-break components to maintain the preset function even in the event of a power failure lasting no longer than 500 milliseconds.
- EMC filter for high attenuation following table specifications.
- dynamic breaking chopper integrated on the three-phase types over 5,5 kW.





 Compliance with main international standards
 (EC Directive (EC marking), UL, CSA, C-tick)



Power kVA	Output Current A	Frequency max Hz	H mm	W mm	D mm	Weight kg	Mechanical protection	Filter EMC
0.6	1.6	200	174	72	136	1.4	IP20	Included
1.0	2.5	200	174	72	136	1.4	IP20	Included
1.6	4.2	200	174	72	136	1.4	IP20	Included
3.0	8.0	200	174	100	136	2.2	IP20	Included
4.0	11	200	174	100	136	2.2	IP20	Included
4.2	6.0	500	174	100	136	2.2	IP20	Included
7.2	8.7	500	174	100	136	2.2	IP20	Included
11	13.0	500	260	130	180	4.3	IP20	Included
13	18.0	500	260	130	180	4.3	IP20	Included
21	24.0	500	260	130	180	4.3	IP20	Included
25	30.0	500	260	130	180	7.5	IP20	Not included
31	38.0	500	384	250	205.4	14	IP30	Not included
37	45.5	500	384	250	205.4	14	IP30	Not included
50	60.0	500	384	250	205.4	15.6	IP30	Not included



The vibrating frequency regulating panels

CFV panels are fixed devices for regulating the vibration frequency by means of the VIBRAVAR inside.

Simple use, easy to control, compact and safe: these are the main features of the CFV panel.

CFV is the technological evolution of the conventional electromechanical frequency converter, the advantage being that it provides variable frequency in a linear way. On specific request, it can also be fitted with controls, protections and operating components.

Technical features

CFV can be used to power the following electric vibrator models:

Type of starting	Electric vibrators type	CFV-037P	CFV-056P	CFV-075P	CFV-112P
		P 3,7 kW	P 5,5 kW	P 7,5 kW	P 11 kW
ITU-VR one at time	ITV-VR/1210-S08 • ITV-VR/1210-RS-S08	2	5	7	10
	ITV-VR/2010-S08 • ITV-VR/2010-RS	0	3	4	8
	ITV-VR/2510 • ITV-VR/2510-V	0	0	2	4
ITU-VR two at time	ITV-VR/1210-S08 • ITV-VR/1210-RS-S08	0	2	4	8
	ITV-VR/2010-S08 • ITV-VR/2010-RS	0	0	0	4
ITVAF one at time	ITVAF 6/600-S02 • ITVAF 6/600-RS1-S02	8	13	16	24
	ITVAF 6/1000-S02-BSH	1	4	6	11
	ITVAF 6/1200-S02-BSH	1	4	6	11
	ITVAF 6/1220-S08 • ITVAF 6/1220-RS-S08	1	3	5	9
	ITVAF 6/1510-S08 • ITVAF 6/1510-RS-S08	0	1	2	5
	ITVAF 6/2010-S90	0	0	0	2
	ITVAF 6/3300	0	0	0	1
	ITVAF 9/1110-S08 • ITVAF 9/1110-RS-S08	0	3	5	11
	ITVAF 9/1510-S08 • ITVAF 9/1510-RS-S08	0	0	1	5
	ITVAF two at time	ITVAF 6/600-S02 • ITVAF 6/600-RS1-S02	6	12	16
ITVAF 6/1000-S02-BSH		0	0	2	6
ITVAF 6/1200-S02-BSH		0	0	2	6
ITVAF 6/1220-S08 • ITVAF 6/1220-RS-S08		0	0	0	4
ITVAF 9/1110-S08 • ITVAF 9/1110-RS-S08		0	0	0	2

Conformity to the European Directives:

Low Voltage 2006/95/EC, Electromagnetic compatibility 2004/108/EC.

CFV comprises:

- electric panel with front door measuring 1350 (height) x 700 (width) x 350 (depth) mm;
- manual threepole main door-locking knife switch with fuses;
- VIBRAVAR inverter with EMC filter;
- keyboard on the panel front for controlling and programming purposes;
- 400V-42V transformer (only in the 42V models).

Optionals

- electromechanical operating and protecting components of a number equal to that of the vibrators (automatic switches and operation disconnectors);
- 3P+G output sockets for connecting the electric vibrators.

Description		Input			Output			
Code	Type	Power rating kW	Voltage V	Frequency Hz	Power kVA	Current max A	Voltage V	Frequency Hz
543049A	CFV 037P 42V	4.0	380 - 480 ± 10%	50/60 ± 5%	7.2	90	42	0-200
543049B	CFV 037P 400V	4.0	380 - 480 ± 10%	50/60 ± 5%	7.2	9.5	400	0-200
543050A	CFV 056P 42V	5.5	380 - 480 ± 10%	50/60 ± 5%	11.0	136	42	0-200
543050B	CFV 056P 400V	5.5	380 - 480 ± 10%	50/60 ± 5%	11.0	14.3	400	0-200
543051A	CFV 075P 42V	7.5	380 - 480 ± 10%	50/60 ± 5%	13.0	162	42	0-200
543051B	CFV 075P 400V	7.5	380 - 480 ± 10%	50/60 ± 5%	13.0	17.0	400	0-200
543052A	CFV 112P 42V	11.0	380 - 480 ± 10%	50/60 ± 5%	21.0	264	42	0-200
543052B	CFV 112P 400V	11.0	380 - 480 ± 10%	50/60 ± 5%	21.0	27.7	400	0-200

MULTIVAR



The mobile vibration frequency regulator

The MULTIVAR mobile high variable frequency actuators (Italvibras patent N° M098000021) meet the increasing demands from building sites where reinforced concrete is precast, for equipment able to facilitate the task.

MULTIVAR can power up to 8 electric vibrators at the same time with 42V or 400V ratings at variable frequencies. Simple to use, easy to manoeuvre, compact and safe: these are the main features of the MULTIVAR frequency regulator.

Technical features

Multivar can be used to power the following electric vibrator models:

Type of starting	Electric vibrators type	MV-4-056P	MV-4-075P	MV-6-075P	MV-6-112P	MV-8-112P
		P 5,5 kW	P 7,5 kW	P 7,5 kW	P 11 kW	P 11 kW
ITV-VR one at time	ITV-VR/1210-S08 • ITV-VR/1210-RS-S08	4	4	6	6	8
	ITV-VR/2010-S08 • ITV-VR/2010-RS-S08	3	4	4	6	8
	ITV-VR/2510 • ITV-VR/2510-V	0	2	2	4	4
ITV-VR two at time	ITV-VR/1210-S08 • ITV-VR/1210-RS-S08	2	4	4	6	8
	ITV-VR/2010-S08 • ITV-VR/2010-RS-S08	0	0	0	4	4
ITVAF one at time	ITVAF 6/600-S02 • ITVAF 6/600-RS1-S02	4	4	6	6	8
	ITVAF 6/1000-S02-BSH • ITVAF 6/1000-RS-S02-BSH	4	4	6	6	8
	ITVAF 6/1200-S02-BSH • ITVAF 6/1200-RS-S02-BSH	4	4	6	6	8
	ITVAF 6/1220-S08 • ITVAF 6/1220-RS-S90-S08	3	4	5	6	8
	ITVAF 6/1510-S08 • ITVAF 6/1510-RS-S08	1	2	2	5	5
	ITVAF 6/2010-S90	0	0	0	2	2
	ITVAF 6/3300	0	0	0	1	1
	ITVAF 9/1110-S08 • ITVAF 9/1110-RS-S08	3	4	5	6	8
	ITVAF 9/1510-S08 • ITVAF 9/1510-RS-S08	0	1	1	5	5
	ITVAF two at time	ITVAF 6/600-S02 • ITVAF 6/600-RS1-S02	4	4	6	6
ITVAF 6/1000-S02-BSH • ITVAF 6/1000-RS-S02-BSH		0	2	2	6	6
ITVAF 6/1200-S02-BSH • ITVAF 6/1200-RS-S02-BSH		0	2	2	6	6
ITVAF 6/1220-S08 • ITVAF 6/1220-RS-S08		0	0	0	4	4
ITVAF 9/1110-S08 • ITVAF 9/1110-RS-S08		0	0	0	2	2

MULTIVAR is the ideal substitute for the conventional electro-mechanical frequency converter, the advantages being linear frequency variation with full controls, protection and operating components, ready to power electric vibrators.

Conformity to the European Directives

Low Voltage 2006/95/EC, Electromagnetic compatibility 2004/108/EC.

MULTIVAR comprises:

- a wheel-mounted structure;
- 3P+G power flex and plug for connecting to the 400V 50Hz electricity main;
- threepole main disconnecter;
- VIBRAVAR inverter with EMC filter;
- control console with programming and operating keyboard;
- 400V-42V transformer (only in 42V models);
- electromechanical operating and protecting components (remote control switches, thermal protections and fuses);
- 3P+G output sockets for connecting the electric vibrators.

Description		Input				Output		Dimensions			
Code	Type	Potenza nominale kW	Voltage V	Frequency Hz	N° output	Voltage V	Frequency	Height mm	Width mm	Length mm	Weight kg
543036A	MV-4-056P 42V	5.5	380-480 ± 10%	50/60 ± 5%	4	42	0-200	1000	650	1200	195
543036B	MV-4-056P 400V	5.5	380-480 ± 10%	50/60 ± 5%	4	400	0-200	1000	650	1200	130
543037A	MV-4-075P 42V	7.5	380-480 ± 10%	50/60 ± 5%	4	42	0-200	1000	650	1200	205
543037B	MV-4-075P 400V	7.5	380-480 ± 10%	50/60 ± 5%	4	400	0-200	1000	650	1200	135
543038A	MV-6-075P 42V	7.5	380-480 ± 10%	50/60 ± 5%	6	42	0-200	1000	650	1200	215
543038B	MV-6-075P 400V	7.5	380-480 ± 10%	50/60 ± 5%	6	400	0-200	1000	650	1200	145
543039A	MV-6-112P 42V	11.0	380-480 ± 10%	50/60 ± 5%	6	42	0-200	1000	650	1200	250
543039B	MV-6-112P 400V	11.0	380-480 ± 10%	50/60 ± 5%	6	400	0-200	1000	650	1200	150
543053A	MV-8-112P 42V	11.0	380-480 ± 10%	50/60 ± 5%	8	42	0-200	1000	650	1200	250
543053B	MV-8-112P 400V	11.0	380-480 ± 10%	50/60 ± 5%	8	400	0-200	1000	650	1200	150

SOLUTIONS FOR PREFABRICATION

Electronically controlled systems

These are highly technological systems able to handle 6 to 72 electric vibrators, depending on the installation. A further extension allows the system to handle up to 864 electric vibrators.

Housed in a special panel, the electronically controlled system is equipped with an interactive terminal for compiling, filing and displaying the vibration formulas.

The systems can also be remote controlled.

A characterizing feature of the system is VIBRAVAR, the electronic vibration frequency converter and VIBRALOGIC, the PLC for computerized management of the vibration function. It can also be equipped with the VIBRATEL remote control, the VIBRALASER reflecting laser system and the VIBRAGEST administration software.



CFV and electromechanically controlled systems

These feature a powering panel containing the VIBRAVAR electronic frequency converter and various sub-panels to control the vibrators and their vibrating frequency. The system's powering panel can handle up to 10 sub-panels, depending on the type. Each sub-panel, available with either a socket or core-hitch type of output for connecting to the vibrator, controls from 4 to 10 electric vibrators. Each sub-panel has 7 fixed vibration frequencies and 1 variable one.

The CFV board can directly power up to 11 electric vibrators (in this case the CFV can be accessorised with organs of protection and manoeuvre for the electric vibrators), or it can power up to 10 sub-boards.



MULTIVAR electromechanically controlled systems

MULTIVAR is the ideal means for replacing conventional electromechanical converters with fixed frequencies, with a system that can vary the frequency / centrifugal force.

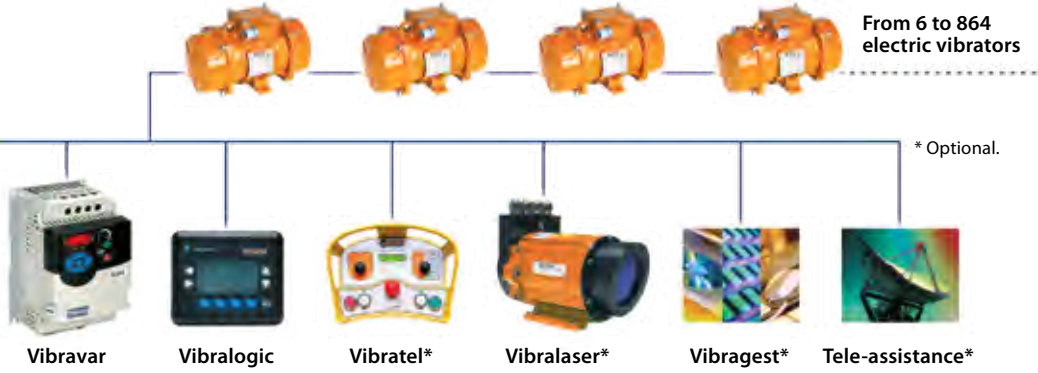
It's also an optimum choice for both manufacturers of small concrete items and precasting enterprises when they need to produce specific items that cannot be obtained with normal forms.

MULTIVAR comes complete with control and protection equipment, so it can therefore be connected straight to the electric vibrators.

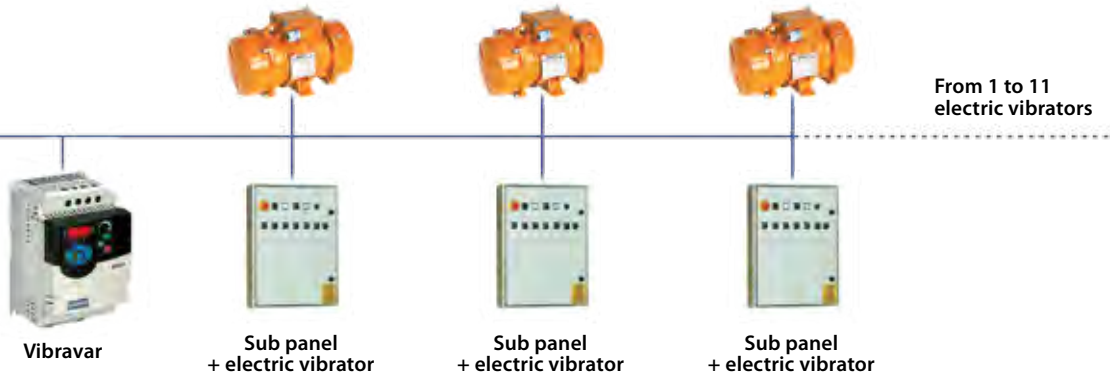




Electric panel



CFV



Multivar

