

TOSVERT™ VF-P7

New-Generation wide application inverter

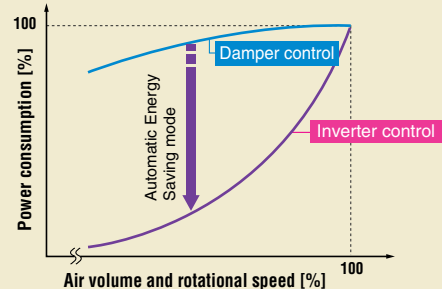


200V class 18.5-110kW
400V class 18.5-315kW



*1 Soon to be released
*2 Under application

VF-P7 saves energy, automatic energy saving mode saves even more



- If operated in Constant Torque mode, the VF-P7 can be used as a general-purpose inverter.
(Overload current rating: 120%-1min)
- Fin can be attached externally.
(Optional for 200V 18.5 to 30kW models and 400V 18.5 to 37kW models)
- Control circuit I/O logic (Sink/Source) switching function enables to easily switch the I/O logic and connect various types of programmable controllers.

Features

- Automatic energy saving function
Ensures efficient energy saving by limiting the current to the motor.
- Momentary Power failure measures
The auto-restart function smoothly restarts the coasting motor. Ride-Through Control mode enable to keep running on regenerative energy by the motor in case of a momentary power failure.
Note: Depending on the inertia or loading conditions, it can sometimes be difficult for the machine to keep operating.
- Commercial Power/Inverter switching circuit
VF-P7 has a sequence to switch them.
- PID control
VF-P7 has PID control function for process control of air volume, discharge, pressure, etc.
- Preset-speed operation
A maximum of 15 speeds are selectable.
- Soft stall
If the VF-P7 detects an overload, it automatically reduces the output frequency before the motor trips.
- Retry function
If a protective function is activated, the VF-P7 tries to restart the machine a maximum of 10 times.
- Low-current detection
This function enable to prevent the machine from idling.
- Protective functions
 - I/O phase failure detecting function.
 - Ground fault detecting function.
 - Dependable operation in case of power voltage drop (+10%, -15%).
 - Even if the input voltage fluctuates, the VF-P7 keeps the V/f ratio constant by correcting the supply voltage.
 - The electronic thermal characteristic and the motor 150%-overload withstanding time are parameter selectable.

Options

- AC/DC Reactor
- Radio noise reduction filter/ EMI filter
- Breaking resistor/ unit
- Motor noise reduction filter
- Motor end surge voltage suppression filter
- Extended panel/ Parameter writer
- Remote control panel
- Communication options
- Board type options
- Add-on module options
- Protection options

Standard specifications

Item		Standard specification																									
Input Voltage		200V										400V															
Applicable motor (kW)		18.5	22	30	37	45	55	75	90	110	18.5	22	30	37	45	55	75	90	110	132	160	200	220	280	315		
Rating	Type	VFP7-																									
	Model	2185P	2220P	2300P	2370P	2450P	2550P	2750P	2900P	2110KP	4185P	4220P	4300P	4370P	4450P	4550P	4750P	4900P	4110KP	4132KP	4160KP	4200KP	4220KP	4280KP	4315KP		
	Capacity (kVA)*1	28	34	46	55	69	84	110	133	160	28	34	46	55	69	84	110	143	160	194	236	300	320	412	470		
	Rated output current (A)	73	88	120	144	180	220	288	350	420	37	44	60	72	90	110	144	180	210	255	310	377	420	540	590		
	Rated output voltage	3-phase 200 to 230V*6										3-phase 380 to 460V*6															
Overload current rating	120% - 1 min., 180% - 0.5 sec.										120% - 1 min., 150% - 0.3 sec.					120% - 1 min., 180% - 0.5 sec.					120% - 1 min., 150% - 0.3 sec.						
Electrical rating	Dynamic braking circuit	Dynamic braking circuit installed										Optional															
	Dynamic braking resistor	External braking resistor or external braking unit (optional)					External braking resistor (optional)					External braking resistor or external braking unit (optional)					External braking resistor (optional)										
Input Power	Voltage/frequency	Main circuit	3-phase 200 to 220V - 50Hz 200 to 230V - 60Hz					3-phase 200 to 230V - 50/60Hz					3-phase 380 to 460V - 50/60Hz					3-phase 380 to 440V - 50Hz 380 to 460V - 60Hz					3-phase 380 to 460V - 50/60Hz				
		Control circuit*2	External circuit (optional)		Single-phase 200 to 220V - 50Hz 200 to 230V - 60Hz			Single-phase 200 to 230V - 50/60Hz			External circuit (optional)		Single-phase 380 to 440V - 50Hz 380 to 460V - 60Hz			Single-phase 380 to 460 - 50/60Hz											
	Tolerance	Voltage +10/-15%*5, frequency ± 5%																									
Protective method	Enclosed type (JEM1030)IP20*3					Open structure (JEM1030)IP00*4										Enclosed type (JEM1030)IP20*3					Open structure (JEM1030)IP00*4						
Cooling method	Forced air cooling																										
Color	Munsell 5Y-8/0.5																										

Notes) *1: Capacity is calculated at 220V for the 200V models and at 440V for the 400V models.

*2: An option is required for the 22kW and smaller models to be compatible with the control power supply (RO or SO).

*3: Each model has three through-holes for wiring of the main input circuit, main output circuit and control circuit. Seal them properly after wiring.

*4: The models with a capacity of 30kW or more have uncovered wide-opened wiring holes and the unit has no space in it which is large enough to bend external cables. So, use an optional wiring hole cover when installing the unit outside.

*5: ±10% when the inverter is used continuously (load of 100%).

*6: The max. output voltage is the same as the input power supply voltage.

External dimensions and weight

Voltage class	Applicable motor capacity (kW)	Inverter type	Dimensions (mm)			Approx. weight (kg)
			W	H	D	
200V	18.5	VFP7-2185P	245	390	207	16
	22	VFP7-2220P	300	555	197	23
	30	VFP7-2300P	370	630	290	46
	37	VFP7-2370P	480	680	330	72
	45	VFP7-2450P	660	950	370	148
	55	VFP7-2550P				148
	75	VFP7-2750P				148
	90	VFP7-2900P				148
400V	110	VFP7-2110KP	245	390	207	16
	18.5	VFP7-4185P	245	390	207	16
	22	VFP7-4220P	300	555	197	24
	30	VFP7-4300P	300	555	197	24
	37	VFP7-4370P	370	630	290	48
	45	VFP7-4450P	370	630	290	48
	55	VFP7-4550P	370	630	290	49
	75	VFP7-4750P	370	630	290	49
	90	VFP7-4900P	480	680	330	77
	110	VFP7-4110KP	480	680	330	77
	132	VFP7-4132KP	660	950	370	166
	160	VFP7-4160KP	660	950	370	168
	200	VFP7-4200KP				166
220	VFP7-4220KP				168	
280	VFP7-4280KP				168	
315	VFP7-4315KP				168	

Standard connection

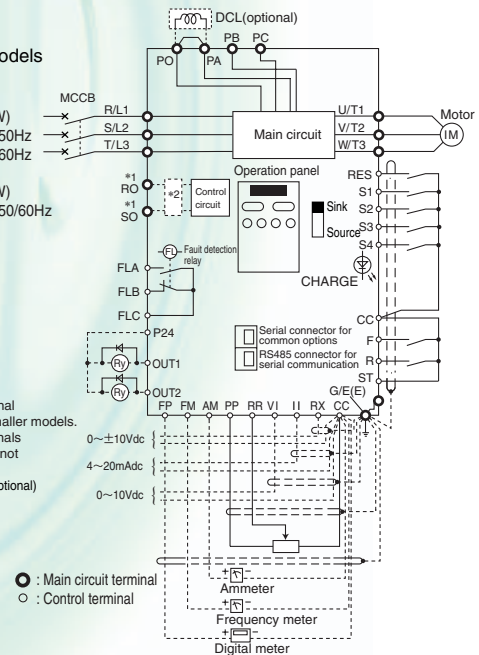
Ex. sink logic
22kW and smaller models

200V models, (18.5-22kW)
3-phase 200 to 220V - 50Hz
3-phase 200 to 230V - 60Hz

400V models, (18.5-22kW)
3-phase 380 to 460V - 50/60Hz

*1. Control power input terminal
Optional for 22kW and smaller models.
Control power input terminals are provided but they are not connected inside.

*2. Control power supply unit (optional)



To users of our inverters: Our inverters are designed to control the speeds of three-phase induction motors for general industry.

SAFETY PRECAUTIONS

- Read the instruction manual before installing or operating the inverter unit and store it in a safe place for reference.
- When using our inverters for equipment such as nuclear power control equipment, aviation and space flight control equipment, traffic equipment, and safety equipment, and there is a risk that any failure or malfunction of the inverter could directly endanger human life or cause injury, please contact our headquarters, branch, or office printed on the front and back covers of this catalogue. Such applications must be studied carefully.
- When using our inverters for critical equipment, even though the inverters are manufactured under strict quality control always fit your equipment with safety devices to prevent serious accident or loss should the inverter fail (such as failure to issue an inverter trouble signal).
- Do not use our inverters for any load other than three-phase induction motors.
- None of Toshiba, its subsidiaries, affiliates or agents, shall be liable for any physical damages, including, without limitation, malfunction, anomaly, breakdown or any other problem that may occur to any apparatus in which the Toshiba inverter is incorporated or to any equipment that is used in combination with the Toshiba inverter. Nor shall Toshiba, its subsidiaries, affiliates or agents be liable for any compensatory damages resulting from such utilization, including compensation for special, indirect, incidental, consequential, punitive or exemplary damages, or for loss of profit, income or data, even if the user has been advised or apprised of the likelihood of the occurrence of such loss or damages.

For further information, please contact your nearest Toshiba Representative or International Operations-Producer Goods.

The Information in this brochure is subject to change without notice.

In Touch with Tomorrow

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