

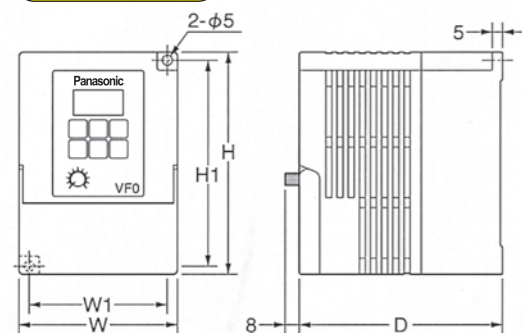
## Rated specifications

Input Voltage	Single-phase 200V series				Three-phase 400V series			
Model	BFV00022D	BFV00042D BFV00042G	BFV00072D BFV00072G	BFV00152D BFV00152G	BFV00074	BFV00154	BFV00224	BFV00374
Motor output (kW)	0.2	0.4	0.75	1.5	0.75	1.5	2.2	3.7
Rated output current (A)	1.4 2)	2.4 2)	3.6 2)	7.0 2)	2.1	3.8	5.4	8.7 3)
Rated output capacity (kVA) 4)	0.6	1.0	1.4	2.8	1.7	3.0	4.3	6.9
Power supply capacity (kVA) 5)	0.7	1.2	1.7	3.7	2.6	3.6	6.4	10.4
Mass(kg)	0.7	0.7	1.2	1.3	1.4	1.4	1.4	2.1

- 1) In the order number for 200V series, those with a suffix of D represent no regenerative brake, and those with a suffix of G represent regenerative brake (0.75kW, 1.5kW: circuit built-in brake resistor; 0.4 kW: only circuit built in, brake resistor is supplied as an option for external setting). 400V series: all use brake circuits built in (brake resistor is supplied as a dedicated option for external setting).
- 2) The rated output current for 200V series is that for when the carrier frequency is 10.0kHz or less. When using at 12.5kHz and 15kHz, the rated output current must be reduced by 5% (12.5kHz) and 10% (15kHz).
- 3) The rated output current for the 3.7kW capacity of 400V series is that for when the carrier frequency is 7.5kHz or less. When using at 10.0kHz, the rated output current must be reduced by 10%.
- 4) The rated output capacity for 200V series is that for the output voltage 230V, and the rated output capacity for 400V series is that for the output voltage 460V.
- 5) The power supply capacity will change according to the impedance on the power supply side. Prepare a power supply larger than the values given in the table.

## Outline Dimensions

### Single-phase 200V class

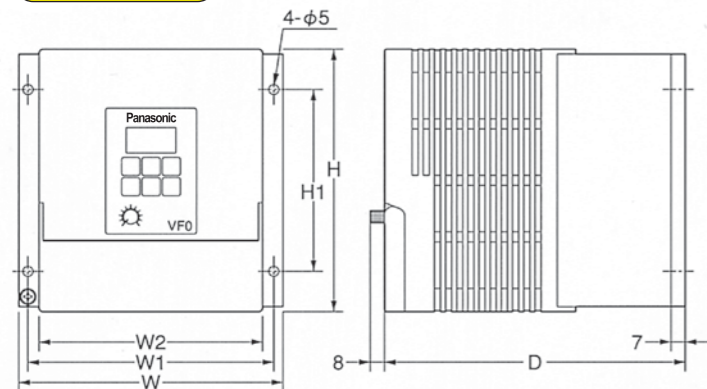


Unit: mm

Inverter Capacity (kW)	W	W1	H	H1	D
0.2	78	68	110	102	100
0.4	100	90	130	121	115
0.75					
1.5					

Note) Inverter with 1.5kW ratings is equipped with cooling fan.

### 3-phase 400V class



Unit: mm

Inverter Capacity (kW)	W	W1	W2	H	H1	D
0.75	130	121	110	130	90	148
1.5	130	121	110	130	90	161
2.2						
3.7	160	151	140	130	90	161

Note) Inverter with 1.5~3.7kW ratings is equipped with cooling fan.

## Compact Inverter VFO Series



Please contact.....

### Panasonic Electric Works Automation Controls(Shanghai) Co.,Ltd.

T52-3, No. 1510, Chuan Qiao Road, Jin Qiao Export Processing Zone, Pu Dong New Area, Shanghai, China P.R.  
Postcode: 201206

# Panasonic®

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# VFO has come on stage with super-compactness

## Single-phase 200V class

0.2kW type  
0.4 kW type  
0.75 kW type  
1.5 kW type



## Three-phase 400V class

0.75 kW type  
1.5 kW type  
2.2 kW type  
3.7 kW type



### Compact

Compactness of best level has been achieved in response to request for space-saving. The dimensional size is only 40%-56% of our past product. ( The width of the 400V series not includes the mounting part.)

### Easy to operate

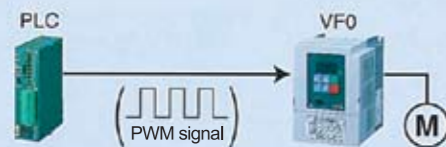
Newly applied volume-switch makes operation easier. Forward/reverse run direction can be set with operation panel.



※ When the digital setting of the P08 parameter is 1.

### Frequency control with PLC is possible

Frequency control for motors is possible with PWM signal from PLC. Moreover, it can be used with the PLC(FP0 etc. ) of our company without analog I/O unit.

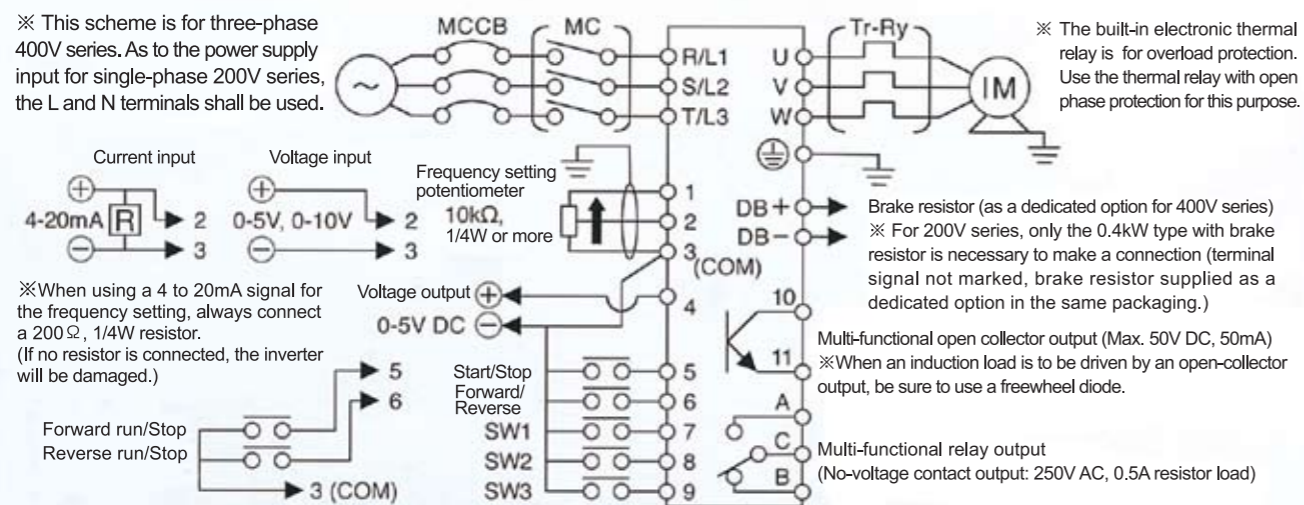


### Compact Size with All Functions

- 8-speed control braking function
  - Retry function
  - Function of Setting the frequency increase/decrease and storage according to external SW input
  - Regenerative brake function
- 400V series: brake circuit built in.  
200V series: 0.4-1.5kW resistor built in  
(No brake resistor for 0.2kW circuit; for 0.4kW circuit, brake resistor for external setting supplied in the same packaging.)

### Standard wiring scheme

※ This scheme is for three-phase 400V series. As to the power supply input for single-phase 200V series, the L and N terminals shall be used.



※ Setting Manual Control as factory setting with operation panel before delivery. It may be necessary to change the setting parameters according to the control signal used.

### Common specifications

Input voltage	Single-phase 200V class	Three-phase 400V class
Motor output	0.2 to 1.5kW	0.75 to 3.7kW
Rated output	Rated output voltage	3-phase, 200 to 230VAC (proportional to power supply voltage)
	Overload current rating	150% of rated output current for 1 minute
Input frequency	Number of phases, voltage, frequency	Single-phase, 200 to 230VAC: 50/60Hz
	Tolerable voltage variations	+10%, -15% of rated AC input voltage
	Tolerable frequency variations	±5% of rated input frequency
	Instantaneous voltage drop resistance capacity	Continuous operation at 165V or more; Continuous operation at less than 165V for 15 ms.
Output frequency	Output frequency range	0.5 to 250Hz
	Frequency display	Digital display
Inverter control method	Frequency accuracy	±5% of selected maximum set frequency (25 ± 10°C: for analog setting)
	Frequency setting resolution	• Digital setting : 0.1Hz (1Hz over 100Hz) • Analog setting : 0.1Hz (50/60Hz mode)
Carrier frequency	Inverter control method	High carrier frequency sinusoidal PWM control (V/F control method)
	Carrier frequency	Select from 9 types (The output current must be reduced when the carrier frequency is set to 12.5, 15Hz.) (0.8, 1.1, 1.6, 2.5, 5.0, 7.5, 10.0, 12.5, 15.0kHz)
Operation	Start/Stop	Operation panel buttons or 1a contact signal (wait time setting possible)
	Forward/Reverse	Operation panel buttons or 1a contact signal (reverse rotation prohibit setting possible)
	Jog operation	Operating frequency: Optional setting for 0.5 to 250Hz, Acceleration/deceleration time: Optional setting each for 0.04 to 999 seconds
	Stop mode	Select from ramp-to-stop or coast-to-stop (selection changeover)
	Reset function	Stop signal reset, external reset, panel reset (setting possible) and power supply reset
	Stop frequency	Optional setting from 0.5 to 60Hz
	Instantaneous power failure restart	Function ON/OFF, and 0Hz restart, operating frequency restart (selection changeover)
Retry function	Retry selection : Select function ON/OFF and details of retry fault • No. of retries : Optional setting for 1 to 10 times	
Control	Frequency setting signal	• Manual setting: Potentiometer, digital setting (operation panel) • Remote control analog setting signal: Potentiometer (10kΩ, 1/4W), 0 to 5V DC, 0 to 10 V DC, 4 to 20mA DC (Connect a 200 Ω, 1/4W or more external resistor) • Remote control digital setting signal: PWM signal (signal cycle: 0.9 to 1100ms), Frequency up SW, down SW, save SW signal
	Voltage/frequency characteristics	• Base frequency : 50, 60Hz fixed and optional setting between 45 and 250Hz, V/F curve : Constant torque, square torque pattern (selection changeover)
	2nd Voltage/frequency characteristics	• Optional base frequency setting for 45 to 250Hz
	1st and 2nd torque boost level	Optional setting for 0 to 40%
	1st and 2nd Accel./Decel. time	• 0.04 to 999 sec. (individual accel. and decel. time setting) • Accel./Decel. Characteristics: Linear
	Multi-speed frequency setting	Up to 8 preset frequency settings (optional setting)
	Skip frequency setting	Up to 3 place settings (skip frequency band setting from 1 to 10Hz)
	Upper/Lower frequency setting	Optional setting from 0.5 to 250Hz
Bias/gain frequency settings	• Bias frequency : set from -99 to 250Hz • Gain frequency : set from 0 to 250Hz	
Braking	External stop function	Select from auxiliary stop or coast-to-stop (selection setting)
	Regenerative braking torque	With braking : 0.4kW, 0.75kW, 1.5kW: 100% or more (in short time) Without braking : 0.2kW : 100% or more • 0.4kW : 80% or more • 0.75kW : 20% or more • 1.5kW : 20% or more
Output signal	DC braking	• Operates when less than stop frequency, braking torque level : 0 to 100 (set between 20 levels) • Braking time : Optional setting for 0.1 to 120 seconds
	Analog output	• Output specifications : 0 to 5V (max. 1mA) • Output functions : Output frequency, output current proportional (selection changeover)
Display	Open collector output	• Output specifications : Max. rating 250V DC, 50mA • Output functions : Run signal, arrival signal, overload prealarm, frequency detection, reverse run signal, fault warning, PWM signal output (cycle 1ms, frequency/current proportional, selection changeover)
	Relay output	• Output specifications : 1c contact (contact capacity 250VAC, 0.5A, resistance load) • Output functions : Run signal, arrival signal, overload prealarm, frequency detection, reverse run signal, fault warning.
Protection	Operating condition	Output frequency or line speed (selection changeover), output current, rotation direction
	Fault details	Symbol indicated when protective function activates (last 4 faults are stored).
Environment	Current limit	Current limit can be set from 1 to 200% of rated output current.
	Shut-off (stop)	Instantaneous overcurrent, over temperature (SC1 to 3), overcurrent (OC1 to 3), overload/electronic thermal overload (OL), low voltage (LU), overvoltage (OU1 to 3), auxiliary stop (AU), operation error (OP)
Enclosure	Stall prevention function	Overcurrent stall prevention, regenerative overvoltage stall prevention
	Working ambient temperature and humidity	-10°C to +50°C (with no freezing), 90% RH or less (with no dew condensation)
Cooling method	Transportation/storage temperature and humidity	-25°C to +65°C, 95% RH or less
	Altitude and vibration	1000 m or less, 5.9 m/s <sup>2</sup> (0.6G) or less
Cooling method	Atmosphere	Indoors, with no corrosive gases, explosive gases, oil mist or dust present
	Enclosure	IP20 shielded type, but not include the main circuit and control circuit hole part.
Cooling method	Self-cooling	0.2 to 0.75kW, forced-air cooling : 1.5 to 3.7kW
	Self-cooling	0.75kW, forced-air cooling : 1.5 to 3.7kW

Please note that the specifications for 200V series and those for 400V series are different.