

VECTOR-CONTROLLED INVERTER DRIVES WITH POWER
REGENERATIVE FUNCTION FOR MACHINE TOOLS

VARISPEED-626M5

STANDARD : 200V CLASS 5/3HP (3.7/2.2kW) TO 50/40HP (37/30kW)

400V CLASS 7.5/5HP (5.5/3.7kW) TO 60/50HP (45/37kW)

WINDING SELECTION : 200V CLASS 7.5/5HP (5.5/3.7kW) TO 40/27HP (30/20kW)

400V CLASS 7.5/5HP (5.5/3.7kW) TO 40/27HP (30/20kW)



YASKAWA

Certified for
ISO9001 and
ISO14001



JQA-0422 JQA-EM0498
JQA-EM0924

LITERATURE NO. KAE-S626-7E

For Your Contemporary Needs

The advancing spindle drive VARISPEED-626M5

The VS-626M5 drive for the machine tool spindle has been redesigned in response to contemporary market needs. For a stand alone system, its compact unit and high performance satisfy your needs. For an NC system, energy, space and wiring have been reduced. This spindle drive has the high performance and flexibility to be used with any kind of machine tool.

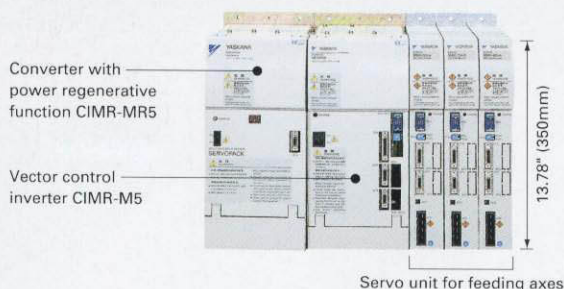


For the best quality and productivity
High Performance



Reduce your tool machine size
Compact

350mm height book structure



All units (servo unit as well as converter and inverter) are aligned at the same height of 350mm (13.78"). A single converter provides power to both the spindle and the servo drives and regenerates their power. Therefore, the control panel can be standardized, and designing does not require much time. A compact and highly efficient multi-axis drive can be quickly and easily assembled.

Compact, lightweight spindle motor

The motor has been further reduced in size and weight due to optimum electro-magnetic design and improved cooling structure. Rapid response as well as quick servo response are achieved at low inertia. It is highly reliable because the cooling capability is maintained even in adverse conditions.



The VS-626M5 conforms to low voltage directives. A machine meeting the CE marking of approval can be assembled using the VS-626M5.

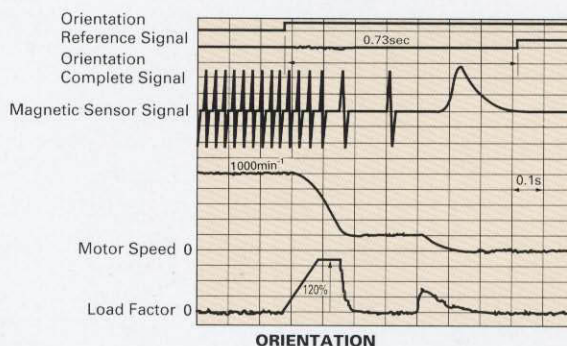
High Precision and servo performance

Highly accurate speed control is achieved by high frequency PWM control due to high speed IGBTs (Insulated Gate Bipolar Transistor). Rotational deviation is reduced by suppressing current distortion which causes torque ripple.

Servo performance is improved by the use of DSP (Digital Signal Processor).

Enhanced Orientation functions

Orientation time is reduced by a position control using a high resolution encoder orientation signal. When the motor axis and the load axis are connected 1:1, any position orientation using the motor encoder can be achieved without adding any options.



Practical with limited wiring
Network

Applicable to our standard network YENET 1200

Only one communication cable is required to connect the spindle, the servo units, and the CNC. A practical twisted pair cable is used. Transferring is highly precise and reliable with 4Mbps high speed serial communication.

(Applicable for analog I/O interface.)



● Applicable for all kinds of machine tools

■ Full lineups from general-purpose to special series

Spindle Drive VS-626M5	Spindle Motor	Literature No.
General Purpose Series*	Compact, lightweight induction motor. Standard and winding selection types are provided. (Conforming to CE markings.)	KAE-S626-7
Tapping Series	Compact, low inertia, synchronous motor. Greatly reduces accel/decel time due to enhanced high accel/decel performance.	—
MAG Series for Compact Milling and Tapping	Super low inertia motor. Inertia is approx. 60% reduced, compared with our induction motor (torque based). High torque at low speeds and large output at high speeds achieved. "Shaft through" is applicable as an option.	—
Liquid Cooling Series for Machine Tools	Induction motor with liquid cooling structure. Compact, high speed, high torque achieved. "Shaft through" are applicable. (Conforming to CE markings.)	—
Built-in Series for Direct Drive	Induction motor will be built in your spindle drive. High speed, low vibration achieved. Single winding, winding selection and high speed series are available.	KAE-S626-7.3

※: Widely used type spindle drive VS-626MC5(CHE-S626-8) also available.

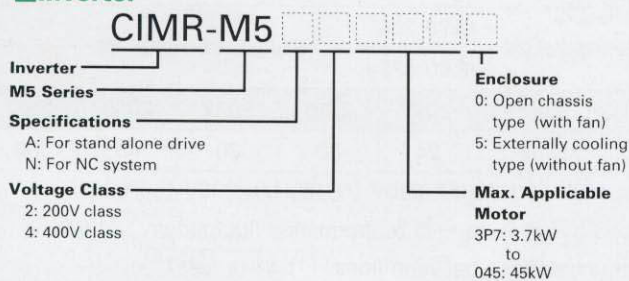
■ Capacity Range

VS-626M5		Voltage V	Continuous Rating kW															
			1.5	2	2.2	3.4	3.7	5.5	6	7.5	11	15	18.5	20	22	25	30	37
General-purpose	Standard	200																
	Winding Selection	200/400																
Tapping Series		200																
MAG Series		200																
Liquid Cooling Series		200																
Built-in	Single Winding																	
	Winding Selection	200																
	High Speed																	
Widely Used*	Standard	200/400																
	Winding Selection	200/400																

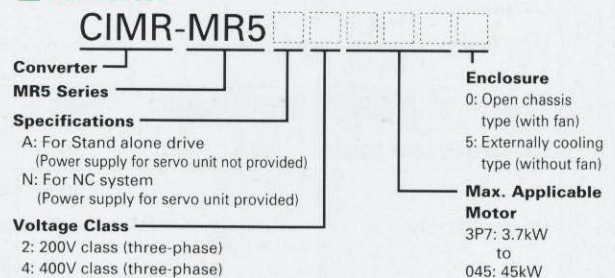
※: Combination of VS-626MC5 inverter and induction motor.

Type Designation

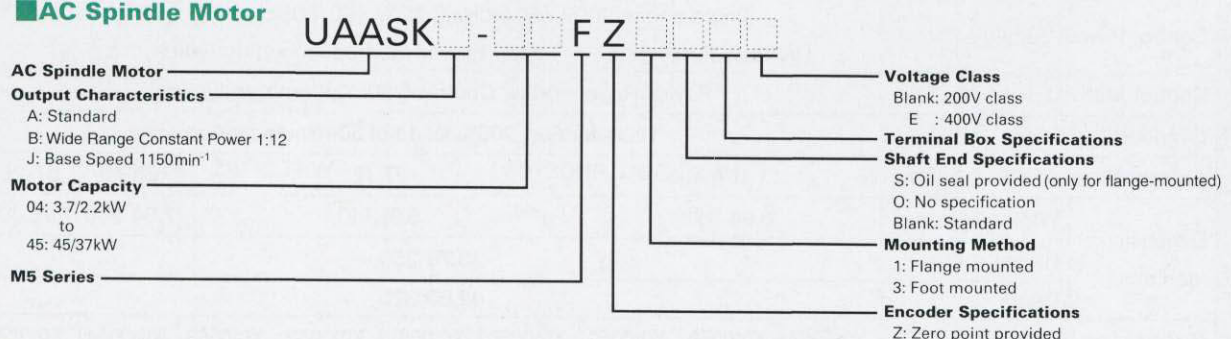
■ Inverter



■ Converter



■ AC Spindle Motor



RATINGS AND SPECIFICATIONS

STANDARD 200V SERIES

Model			UAASKA-□□FZ							UAASKJ-□□FZ	
			04	06	08	11	15	19	22	30	37
Motor	Rated Output*1	30-minute Rating (S2)	5*4	7.5	10	15	20	25	30	40	50
		(50%ED Rating) (S3)	3.7*4	5.5	7.5	11	15	18.5	22	30	37
	HP kW	Continuous Rating (S1)	3	5	7.5	10	15	20	25	30	40
			2.2	3.7	5.5	7.5	11	15	18.5	22	30
	Rated Speed min ⁻¹	Base Speed	1500							1150	
		Maximum Speed	8000			6000				4500	
	Output Torque at Base Speed Continuous Rating	N•m	14.0	23.5	35.0	47.7	70.0	95.0	117.6	182.3	249.0
		lb • ft	10.4	17.4	25.8	35.8	51.7	70.6	86.9	134	183.7
		kgf•m	1.43	2.40	3.57	4.87	7.14	9.74	12.0	18.6	25.4
	Rotor Inertia (GD ² /4)	lb • ft ² kg•m ²	0.209 0.009	0.411 0.017	0.617 0.026	0.759 0.033	1.614 0.069	1.970 0.083	2.326 0.098	6.122 0.259	8.068 0.340
	Rotor GD ²	lb • ft ² kgf•m ²	0.831 0.036	1.637 0.068	2.492 0.104	3.061 0.132	6.478 0.276	7.902 0.332	9.278 0.392	24.54 1.036	32.27 1.360
Overload Capacity		120% for 60s of 30-minute rating (50%ED)									
Vibration		V5							V10		
Noise Level		75dB(A) or less							80dB(A) or less		
Ambient Temperature, Humidity		32 to 104°F, 0 to +40°C, 95%Rh or less (Non-condensing)									
Approx. Mass	lb	71	119	130	150	207	238	269	481	581	
	kg	32	54	59	68	94	108	122	218	263	

Inverter	Model	CIMR-M5□*3□	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037
	Control Method		Sine wave PWM inverter (Vector control)								
	Speed Control Range		40min ⁻¹ to maximum motor speed								
	Speed Regulation		0.2 % maximum speed or less								
	Overload Capacity		120% for 60s of 30-minute rating (50%ED)								
	Approx. Mass		lb kg			11 5	27 12			35 16	57 26
	Dimensions	Width	3.94 100			5.91 150			7.84 200	11.76 300	
		Height	13.78 350								
		Depth	12.60 320								
	Model	CIMR-MR5□*3□	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037
	Required Power Capacity		kVA	7	9	12	19	24	30	36	48
Power Supply		Three-phase, 200V (50/60Hz), 220V (50/60Hz), 230V (60Hz) (Voltage fluctuation : +10 % to -15 %, frequency fluctuation : ±5 %, voltage unbalanced between lines : 5 % or less)									
Control Power Supply		Single-phase 200V (50/60Hz), 220V (50/60Hz), 230V (60Hz) (Voltage fluctuation : +10 % to -15 %, frequency fluctuation : ±5 %)									
Control Method		Power Regenerative Control (120° current conduction)									
Overload Capacity		120% for 60s, 200% for 1s of 30-minute rating									
Approx. Mass		lb kg			11 5	27 12			35 16	57 26	
Dimensions	Width	3.94 100			5.91 150			7.84 200	11.76 300		
	Height	13.78 350									
	Depth	12.60 320									
AC Reactor Code No. (At power supply)		X010057	X010058	X010059	X010060	X010061	X010062	X010063	X010064	X010120	

Controller	Common	Ambient Temperature	32 to 131°F, 0 to + 55°C (Non-condensing), heatsink inlet temperature 30 to 113°F, 0 to + 45°C
		Storage Temperature*2	-4 to 140°F, -20 to +60°C
		Humidity	90%RH or less (Non-condensing)
		Location	Indoor (Free from corrosive gases and dust), altitude 1000m or less
		Vibration	1G at 10 to less than 20Hz, 0.2G at 20 to 50Hz

*1: Rated output power is guaranteed when the input voltage is three-phase, 200V at 50/60Hz, 220V at 50/60Hz, or 230V at 60Hz.
If the input voltage is lower than 200V, then the rated output power is not guaranteed.

*2: Temperature during shipping (Short period)

*3: A : For stand alone drive, N : For NC system

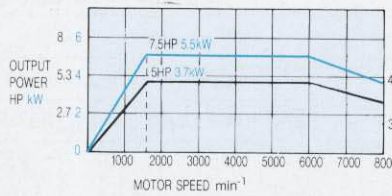
*4: 15-minute rating (50%ED)

OUTPUT POWER-SPEED CHARACTERISTICS

— : 30-minute rating, 50%ED
— : Continuous rating



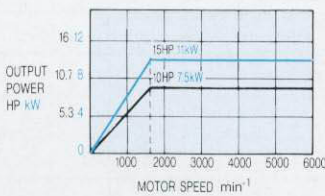
5/3HP 3.7/2.2kW



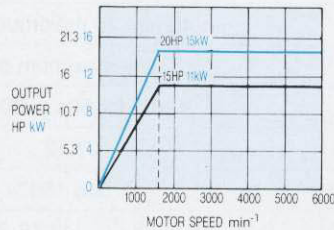
7.5/5HP 5.5/3.7kW



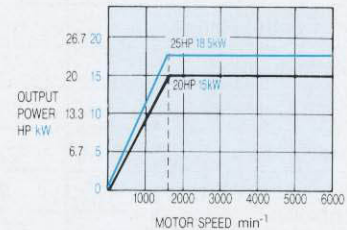
10/7.5HP 7.5/5.5kW



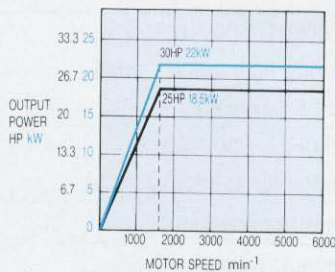
15/10HP 11/7.5kW



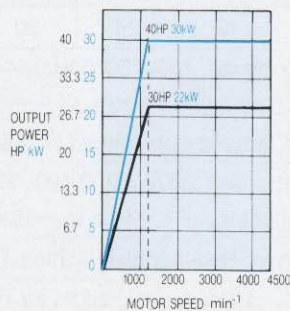
20/15HP 15/11kW



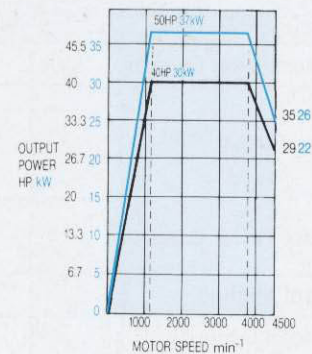
25/20HP 18.5/15kW



30/25HP 22/18.5kW



40/30HP 30/22kW



50/40HP 37/30kW

STANDARD 400V SERIES

Model			UAASKA-□□FZ * E						UAASKJ-□□FZ * E			
			06	08	11	15	19	22	30	37	45	
Motor	Rated Output* ¹	30-minute Rating (S2)	7.5	10	15	20	25	30	40	50	60	
		(50%ED Rating) (S3)	5.5	7.5	11	15	18.5	22	30	37	45	
	HP kW	Continuous Rating (S1)	5	7.5	10	15	20	25	30	40	50	
			3.7	5.5	7.5	11	15	18.5	22	30	37	
	Rated Speed min ⁻¹	Base Speed	1500						1150			
		Maximum Speed	8000			6000			4500			
	Output Torque at Base Speed Continuous Rating	N•m	23.5	35.0	47.7	70.0	95.0	117.6	182.3	249.0	306.8	
		lb • ft	17.4	25.8	35.8	51.7	70.6	86.9	134	183.7	226.4	
		kgf•m	2.40	3.57	4.87	7.14	9.74	12.0	18.6	25.4	31.3	
	Rotor Inertia (GD ² /4)	lb • ft ²	0.411	0.617	0.759	1.614	1.970	2.326	6.122	8.068	11.22	
		kg•m ²	0.017	0.026	0.033	0.069	0.083	0.098	0.259	0.340	0.473	
	Rotor GD ²	lb • ft ²	1.637	2.492	3.061	6.478	7.902	9.278	24.54	32.27	44.85	
		kgf•m ²	0.068	0.104	0.132	0.276	0.332	0.392	1.036	1.360	1.890	
	Overload Capacity		120% for 60s of 30-minute rating (50%ED)									
Vibration		V5						V10				
Noise Level		75dB(A) or less						80dB(A) or less				
Ambient Temperature, Humidity		32 to 104°F, 0 to +40°C, 95%Rh or less (Non-condensing)										
Approx. Mass	lb	119	130	150	207	238	269	481	581	785		
	kg	54	59	68	94	108	122	218	263	355		
Controller	Inverter	Model CIMR-M5□*3□	45P5	47P5	4011	4015	4018	4022	4030	4037	4045	
		Control Method		Sine wave PWM inverter (Vector control)								
		Speed Control Range		40min ⁻¹ to maximum motor speed								
		Speed Regulation		0.2% maximum speed or less								
		Overload Capacity		120% for 60s of 30-minute rating								
		Approx. Mass lb kg		11 5		27 12			46 21			
		Dimensions inch mm	Width	3.94 100		5.91 150			9.84 250			
			Height	13.78 350								
			Depth	12.60 320								
	Converter	Model CIMR-MR5□*3□	45P5	47P5	4011	4015	4018	4022	4030	4037	4045	
		Required Power Capacity kVA		9	12	19	24	30	36	48	60	70
		Power Supply		Three-phase, 400V(50/60Hz), 440V(50/60Hz), 460V(60Hz) (Voltage fluctuation : +10% to -15%, frequency fluctuation : ±5%, voltage unbalanced between lines : 5%or less)								
		Control Power Supply		Single-phase 200V(50/60Hz), 220V(50/60Hz), 230V(60Hz) (Voltage fluctuation : +10% to -15%, frequency fluctuation : ±5%)								
		Control Method		Power Regenerative Control (120° current conduction)								
		Overload Capacity		120% for 60s, 200% for 1s of 30-minute rating								
		Approx. Mass lb kg		11 5		27 12			46 21			
		Dimensions inch mm	Width	3.94 100		5.91 150			9.84 250			
			Height	13.78 350								
			Depth	12.60 320								
AC Reactor Code No. (At power supply)		X002501	X010099	X010100	X010101	X010102	X010103	X010104	X010105	X010106		

Controller	Common	Ambient Temperature	32 to 131°F, 0 to +55°C (Non-condensing), heatsink inlet temperature 30 to 113°F, 0 to +45°C
		Storage Temperature*2	-4 to 140°F, -20 to +60°C
		Humidity	90%RH or less (Non-condensing)
		Location	Indoor (Free from corrosive gases or dust), altitude 1000m or less
		Vibration	1G at 10 to less than 20Hz, 0.2G at 20 to 50Hz

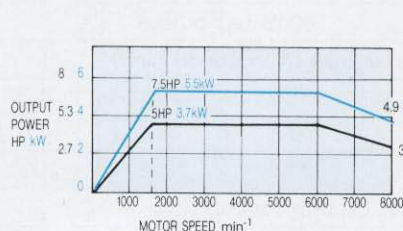
*1: Rated output power is guaranteed when the input voltage is three-phase, 400V at 50/60Hz, 440V at 50/60Hz, or 460V at 60Hz. If the input voltage is lower than 200V, then the rated output power is not guaranteed.

*2: Temperature during shipping (Short period)

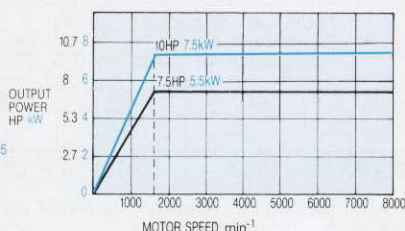
*3: A : For stand alone drive, N : For NC system

OUTPUT POWER-SPEED CHARACTERISTICS

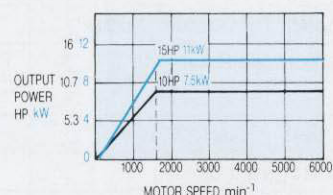
— : 30-minute rating, 50%ED
— : Continuous rating



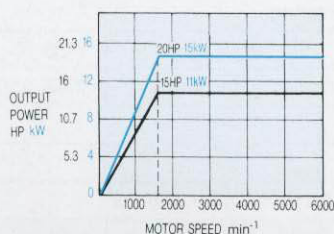
7.5/5HP 5.5/3.7kW



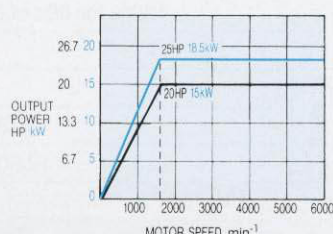
10/7.5HP 7.5/5.5kW



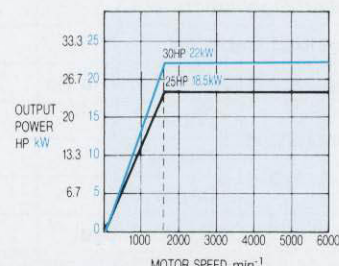
15/10HP 11/7.5kW



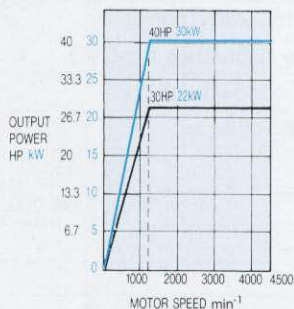
20/15HP 15/11kW



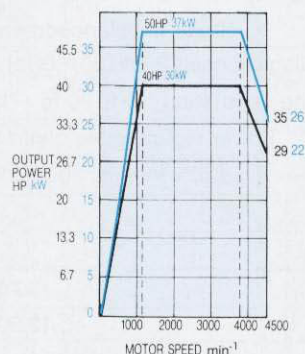
25/20HP 18.5/15kW



30/25HP 22/18.5kW



40/30HP 30/22kW



50/40HP 37/30kW



60/50HP 45/37kW

WINDING SELECTION 200V SERIES

Motor	Model	UAASKB-□□FZ	06	08	11	15	19	22	30	
	Rated Output*1	30-minute Rating (S2)	7.5	10	15	20	25	30	40**	
		(50%ED Rating) (S3)	5.5	7.5	11	15	18.5	22	30**	
	HP kW	Continuous Rating (S1)	5	7.5	10	15	20	25	27	
			3.7	5.5	7.5	11	15	18.5	20	
	Rated Speed min ⁻¹	Base Speed	500			400				
		Maximum Speed	6000			4800				
	Output Torque at Base Speed Continuous Rating	N•m	71	105	143	262	358	442	477	
		lb • ft	52.3	77.6	105.9	193.6	264.5	326.2	351.8	
		kgf•m	7.21	10.7	14.5	26.7	36.5	45.0	48.7	
	Rotor Inertia (GD ² /4)	lb • ft ²	1.614	1.970	2.563	6.146	11.22	13.00	13.00	
		kg•m ²	0.069	0.083	0.098	0.259	0.473	0.548	0.548	
	Rotor GD ²	lb • ft ²	6.478	7.902	10.25	24.54	44.90	51.97	51.97	
kgf•m ²		0.276	0.332	0.392	1.036	1.892	2.190	2.190		
Controller	Overload Capacity		120% for 60s of 30-minute rating							
	Vibration		V5			V10				
	Noise Level		75dB (A) or less			80dB (A) or less				
	Ambient Temperature, Humidity		32 to 104°F, 0 to +40°C, 95%Rh or less (Non-condensing)							
	Approx. Mass	lb	207	238	291	481	783	893	893	
		kg	94	108	132	218	355	405	405	
	Model	CIMR-M5 □*3 □	25P5	27P5	2011	2015	2018	2022	2030	
	Control Method		Sine wave PWM inverter (Vector control)							
Speed Control Range		40min ⁻¹ to maximum motor speed								
Speed Regulation		0.2% maximum speed or less								
Overload Capacity		120% for 60s of 30-minute rating								
Inverter	Approx. Mass		lb kg		11 5	27 12			35 16	
	Dimensions inch mm	Width	3.94 100		5.91 150				7.84 200	
		Height	13.78 350							
		Depth	12.60 320							
	Applicable Contactor Model		HV-75AP3				HV-150AP3			
	Model	CIMR-MR5 □*3 □	25P5	27P5	2011	2015	2018	2022	2030	
	Required Power Capacity		kVA	9	12	19	24	30	36	48
	Power Supply		Three-phase, 200V(50/60Hz), 220V(50/60Hz), 230V(60Hz) (Voltage fluctuation : +10 % to -15 %, frequency fluctuation : ±5 %, voltage unbalanced between lines : 5% or less)							
	Control Power Supply		Single-phase 200V(50/60Hz), 220V(50/60Hz), 230V(60Hz) (Voltage fluctuation : +10 % to -15 %, frequency fluctuation : ±5 %)							
	Control Method		Power regenerative control (120° current conduction)							
Overload Capacity		120% for 60s, 200% for 1s of 30-minute rating								
Converter	Approx. Mass		lb kg		11 5	27 12			35 16	
	Dimensions inch mm	Width	3.94 100		5.91 150				7.84 200	
		Height	13.78 350							
		Depth	12.60 320							
	AC Reactor Code No. (At power supply)		X010058	X010059	X010060	X010061	X010062	X010063	X010064	

Controller	Common	Ambient Temperature	32 to 131°F, 0 to +55°C (Non-condensing), heatsink inlet temperature 30 to 113°F, 0 to +45°C
		Storage Temperature*2	-4 to 140°F, -20 to +60°C
		Humidity	90%RH or less (Non-condensing)
		Location	Indoor (Free from corrosive gases or dust), altitude 1000m or less
		Vibration	1G at 10 to less than 20Hz, 0.2G at 20 to 50Hz

*1: Rated output power is guaranteed when the input voltage is three-phase, 200V at 50/60Hz, 220V at 50/60Hz, or 230V at 60Hz.

If the input voltage is lower than 400V, then the rated output power is not guaranteed.

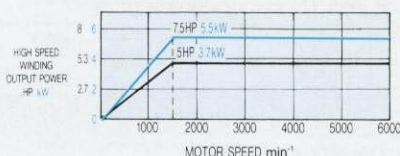
*2: Temperature during shipping (Short period)

*3: A : For stand alone drive, N : For NC system

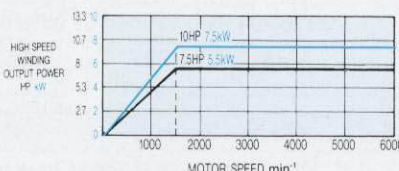
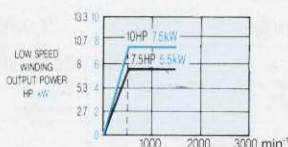
*4: 20-minute rating (50%ED)

OUTPUT POWER-SPEED CHARACTERISTICS

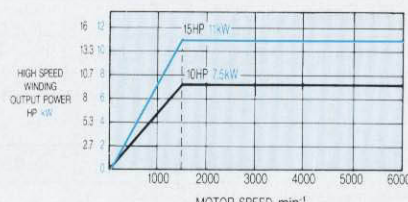
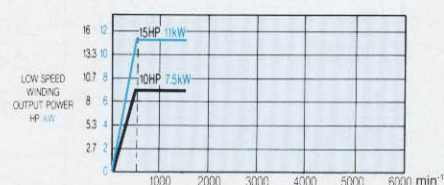
— : 30-minute rating, 50%ED
— : Continuous rating



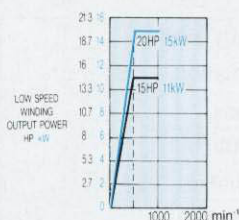
7.5/5HP 5.5/3.7kW



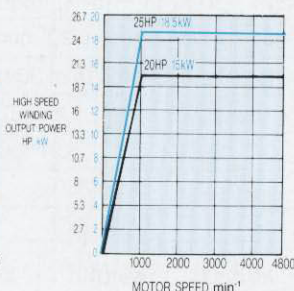
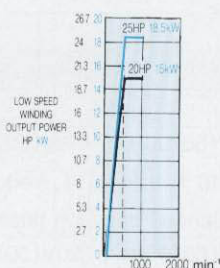
10/7.5HP 7.5/5.5kW



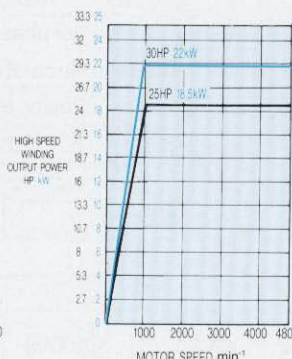
15/10HP 11/7.5kW



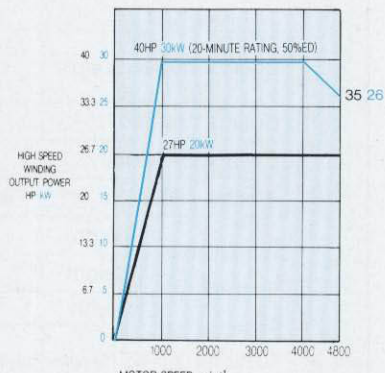
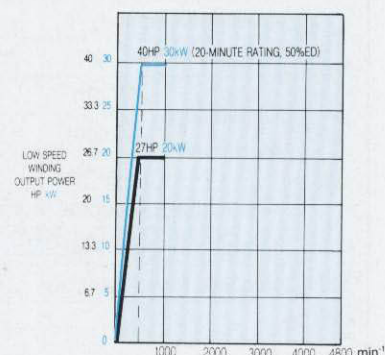
20/15HP 15/11kW



25/20HP 18.5/15kW



30/25HP 22/18.5kW



40/27HP 30/20kW

WINDING SELECTION 400V SERIES

Motor	Model	UAASKB-□□FZ * E	06	08	11	15	19	22	30
	Rated Output* ¹	30-minute Rating (S2)	7.5	10	15	20	25	30	40* ⁴
		(50%ED Rating) (S3)	5.5	7.5	11	15	18.5	22	30* ⁴
	HP kW	Continuous Rating (S1)	5	7.5	10	15	20	25	27
			3.7	5.5	7.5	11	15	18.5	20
	Rated Speed min ⁻¹	Base Speed	500			400			
		Maximum Speed	6000			4800			
	Output Torque at Base Speed Continuous Rating	N•m	71	105	143	262	358	442	525
		lb • ft	52.3	77.6	105.9	193.6	264.5	326.2	387.2
		kgf•m	7.21	10.7	14.5	26.7	36.5	45.0	53.6
	Rotor Inertia (GD ² /4)	lb • ft ²	1.641	1.970	2.568	6.146	11.22	13.00	13.00
		kg•m ²	0.069	0.083	0.098	0.259	0.473	0.548	0.548
	Rotor GD ²	lb • ft ²	6.478	7.902	10.25	24.54	44.90	51.97	51.97
kgf•m ²		0.276	0.332	0.392	1.036	1.892	2.190	2.190	
Overload Capacity		120% for 60s of 30-minute rating							
Vibration		V5			V10				
Noise Level		75dB (A) or less			80dB (A) or less				
Ambient Temperature, Humidity		32 to 104°F, 0 to +40°C, 95%Rh or less (Non-condensing)							
Approx. Mass	lb	205	245	298	525	581	893	893	
	kg	94	108	132	218	355	405	405	

Controller	Inverter	Model	CIMR-M5□□* ³ □□□	45P5	47P5	4011	4015	4018	4022	4030		
		Control Method		Sine wave PWM inverter (Vector control)								
		Speed Control Range		40min ⁻¹ to maximum motor speed								
		Speed Regulation		0.2% maximum speed or less								
		Overload Capacity		120% for 60s of 30-minute rating								
		Approx. Mass		lb	kg	11	5	27	12	46	16	
		Dimensions	Width	3.94	100	5.91				150	9.84	250
			Height	13.78								350
			Depth	12.60								320
		Applicable Contactor Model		HV-75AP3				HV-150AP3				
	Converter	Model	CIMR-MR5□□* ³ □□□	45P5	47P5	4011	4015	4018	4022	4030		
		Required Power Capacity		kVA	9	12	19	24	30	36	48	
		Power Supply		Three-phase, 400V(50/60Hz), 440V(50/60Hz), 460V(60Hz) (Voltage fluctuation : +10 % to -15 %, frequency fluctuation : ±5 %, voltage unbalanced between lines : 5% or less)								
		Control Power Supply		Single-phase 200V(50/60Hz), 220V(50/60Hz), 230V(60Hz) (Voltage fluctuation : +10 % to -15 %, frequency fluctuation : ±5 %)								
		Control Method		Power regenerative control (120° current conduction)								
		Overload Capacity		120% for 60s, 200% for 1s of 30-minute rating								
		Approx. Mass		lb	kg	11	5	27	12	46	21	
		Dimensions	Width	3.94	100	5.91				150	9.84	250
			Height	13.78								350
			Depth	12.60								320
	AC Reactor Code No. (At power supply)		X002501	X010099	X010100	X010101	X010102	X010103	X010104			

Controller	Common	Ambient Temperature	32 to 131°F, 0 to +55°C (Non-condensing), heatsink inlet temperature 30 to 113°F, 0 to +45°C
		Storage Temperature*2	-4 to 140°F, -20 to +60°C
		Humidity	90%RH or less (Non-condensing)
		Location	Indoor (Free from corrosive gases or dust), altitude 1000m or less
		Vibration	1G at 10 to less than 20Hz, 0.2G at 20 to 50Hz

*1: Rated output power is guaranteed when the input voltage is three-phase, 400V at 50/60Hz, 440V at 50/60Hz, or 460V at 60Hz.
If the input voltage is lower than 400V, then the rated output power is not guaranteed.

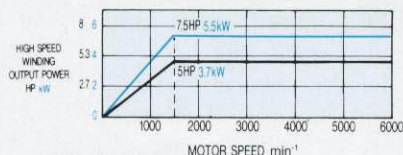
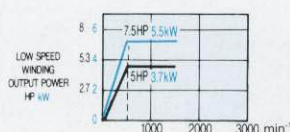
*2: Temperature during shipping (Short period)

*3: A : For stand alone drive, N : For NC system

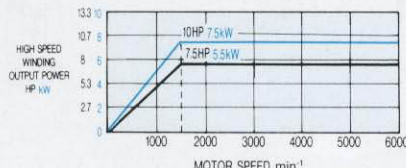
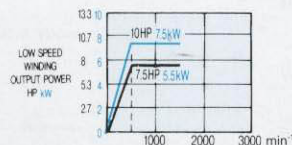
*4: 20-minute rating (50%ED)

OUTPUT POWER-SPEED CHARACTERISTICS

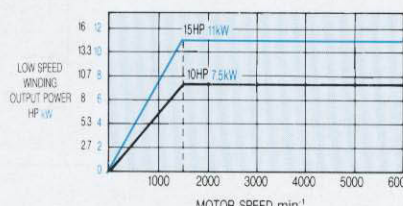
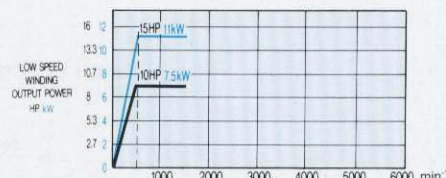
— : 30-minute rating, 50%ED
— : Continuous rating



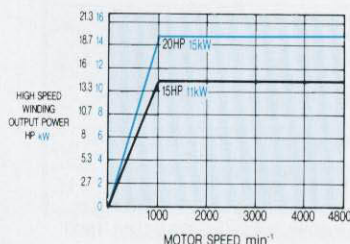
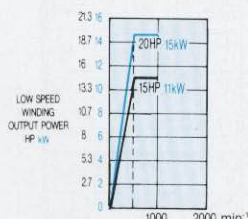
7.5/5HP 5.5/3.7kW



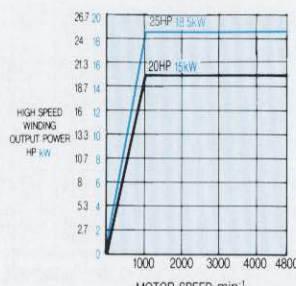
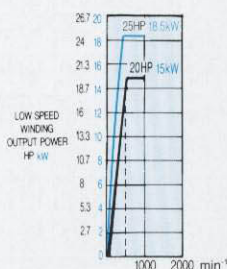
10/7.5HP 7.5/5.5kW



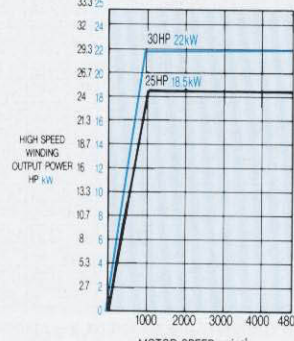
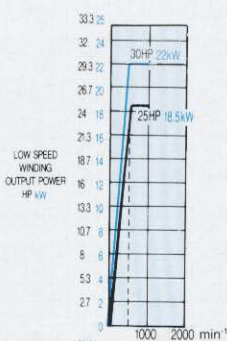
15/10HP 11/7.5kW



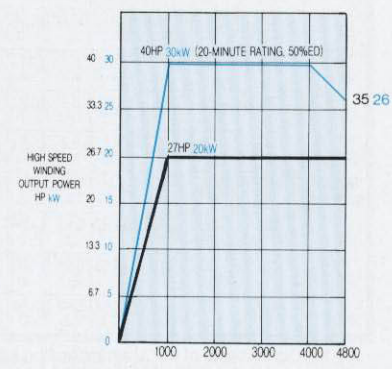
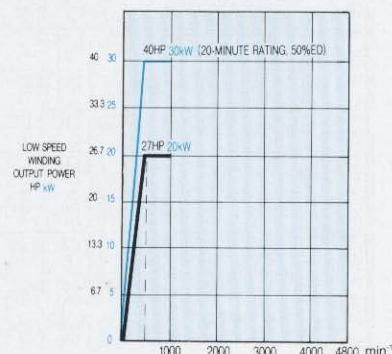
20/15HP 15/11kW



25/20HP 18.5/15kW



30/25HP 22/18.5kW

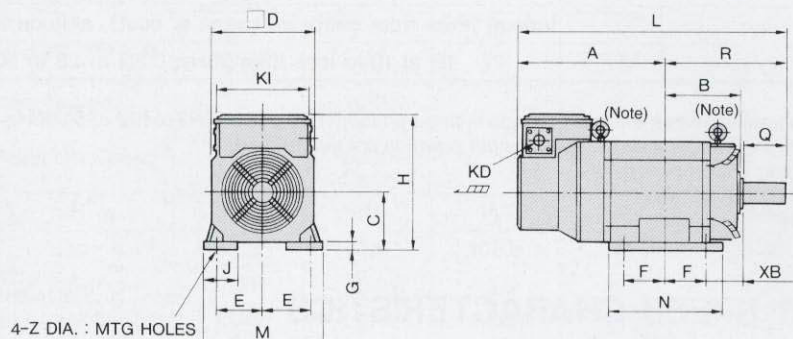


40/27HP 30/20kW

DIMENSIONS

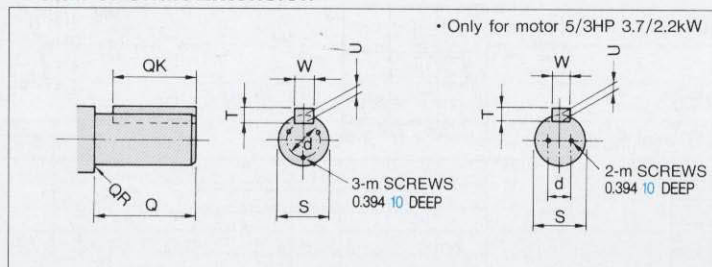
AC SPINDLE MOTOR (General-purpose Series)

FOOT-MOUNTED TYPE



Note : Eyebolts are not provided for standard
5/3HP 3.7/2.2kW and 7.5/5HP 5.5/3.7kW models.

Detail of Shaft Extension *1



In inches mm

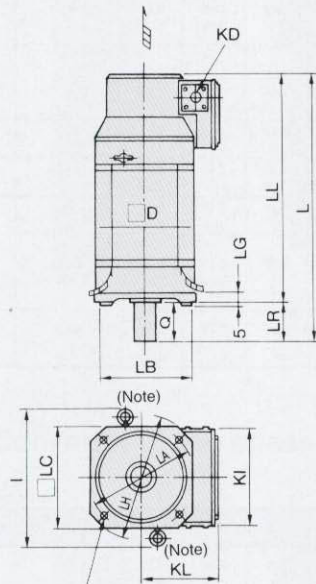
	Rated Output		HP kW	A	B	C	D	E	F	G	H	J	KD	L	M	N	R	XB	Z	KI	Shaft Extension									
	30-min Rating	Continuous Rating																			Q	QK	QR	S	T	U	W	d	m	
Standard	5*2 3.7	3 2.2	9.33 237	3.66 93	3.94 100	6.85 174	3.15 80	1.97 50	0.35 9	9.53 242	1.34 34	1.34 34	15.43 392	7.4 188	4.92 125	6.1 155	1.77 45	0.47 12	6.85 174	2.36 60	1.77 45	0.04 1	1.1 28	0.28 7	0.16 4	0.31 8	0.63 16	M6		
	7.5 5.5	5 3.7	12.13 308	5.2 132	3.94 100	6.85 174	3.15 80	3.5 89	0.35 9	9.53 242	1.34 34	1.34 34	19.76 502	7.4 188	8.11 206	7.64 194	1.77 45	0.47 12	6.85 174	2.36 60	1.77 45	0.04 1	1.1 28	0.28 7	0.16 4	0.31 8	0.87 22	M4		
	10 7.5	7.5 5.5	11.81 300	5.39 137	4.41 112	8.03 204	3.74 95	2.76 70	0.39 10	10.59 269	2.95 75	1.67 42.5	20.47 520	8.66 220	6.97 177	8.66 220	2.76 70	0.47 12	8.03 204	3.15 80	2.76 70	0.04 1	1.26 32	0.31 8	0.2 5	0.39 10	0.87 22	M5		
	15 11	10 7.5	12.64 321	6.14 156	4.41 112	8.03 204	3.74 95	3.5 89	0.39 10	10.59 269	2.95 75	1.67 42.5	23.23 590	8.66 220	8.46 215	10.59 269	2.76 70	0.47 12	8.03 204	4.33 110	3.54 90	0.02 0.5	1.89 48	0.35 9	0.22 5.5	0.55 14	1.57 40	M5		
	20 15	15 11	10.28 261	7.72 196	6.3 160	10.24 260	5 127	3.5 89	0.63 16	13.43 341	2.17 55	1.67 42.5	22.36 568	11.42 290	8.78 223	12.09 307	4.25 108	0.59 15	9.84 250	4.33 110	3.54 90	0.04 1	1.89 48	0.35 9	0.22 5.5	0.55 14	1.57 40	M5		
	25 18.5	20 15	11.14 283	8.35 212	6.3 160	10.24 260	5 127	4.13 105	0.63 16	13.43 341	2.17 55	1.67 42.5	23.86 606	11.42 290	10.04 255	12.72 323	4.25 108	0.59 15	9.84 250	4.33 110	3.54 90	0.04 1	1.89 48	0.35 9	0.22 5.5	0.55 14	1.57 40	M5		
	30 22	25 18.5	11.69 297	9.21 234	6.3 160	10.24 260	5 127	5 127	0.63 16	13.43 341	2.17 55	1.67 42.5	25.28 642	11.42 290	11.77 299	13.58 345	4.25 108	0.59 15	9.84 250	4.33 110	3.54 90	0.04 1	2.17 55	0.39 10	0.24 6	0.63 16	1.77 45	M5		
	40 30	30 22	15.98 406	9.69 246	7.09 180	12.6 320	5.49 139.5	5 127	0.63 16	16.02 407	2.17 55	2.4 61	31.26 794	12.6 320	12.6 320	11.73 298	15.28 388	4.76 121	0.75 19	12.6 320	5.51 140	4.33 110	0.08 2	2.36 60	0.43 11	0.28 7	0.71 18	1.97 50	M6	
	50 37	40 30	18.11 460	11.69 297	7.09 180	12.6 320	5.49 139.5	7.01 178	0.63 16	16.02 407	2.17 55	2.4 61	35.39 899	12.6 320	15.75 400	17.28 439	4.76 121	0.75 19	12.6 320	5.51 140	4.33 110	0.08 2	2.36 60	0.43 11	0.28 7	0.71 18	1.97 50	M6		
	60*3 45	50 37	14.88 378	11.89 302	8.86 225	14.96 380	7.01 178	6.12 155.5	0.83 21	19.88 505	2.95 75	2.4 61	32.38 822.5	16.54 420	16.73 425	17.5 444.5	5.87 149	0.94 24	15.16 385	5.51 140	4.33 110	0.04 1	2.76 70	0.47 12	0.3 7.5	0.79 20	2.36 60	M6		
	Winding Selection	7.5 5.5	5 3.7	10.28 261	7.72 196	6.3 160	10.24 260	5 127	3.5 89	0.63 16	13.43 341	2.17 55	1.67 42.5	22.36 568	11.42 290	8.78 223	12.09 307	4.25 108	0.59 15	9.84 250	4.33 110	3.54 90	0.04 1	1.89 48	0.35 9	0.22 5.5	0.55 14	1.57 40	M5	
10 7.5		7.5 5.5	11.14 283	8.35 212	6.3 160	10.24 260	5 127	4.13 105	0.63 16	13.43 341	2.17 55	1.67 42.5	23.86 606	11.42 290	10.04 255	12.72 323	4.25 108	0.59 15	9.84 250	4.33 110	3.54 90	0.04 1	1.89 48	0.35 9	0.22 5.5	0.55 14	1.57 40	M5		
15 11		10 7.5	12.22 310.5	9.7 246.5	6.3 160	10.24 260	5 127	5.49 139.5	0.63 16	13.43 341	2.17 55	1.67 42.5	26.3 668	11.42 290	12.76 324	14.07 357.5	4.25 108	0.59 15	9.84 250	4.33 110	3.54 90	0.04 1	2.17 55	0.39 10	0.24 6	0.63 16	1.77 45	M5		
20 15		15 11	15.98 406	9.69 246	7.09 180	12.6 320	5.49 139.5	5 127	0.63 16	16.02 407	2.17 55	2.4 61	31.26 794	12.6 320	11.73 298	15.28 388	4.76 121	0.75 19	12.6 320	5.51 140	4.33 110	0.08 2	2.36 60	0.43 11	0.28 7	0.71 18	1.97 50	M6		
25 18.5		20 15	14.88 378	11.89 302	8.86 225	14.96 380	7.01 178	6.12 155.5	0.83 21	19.88 505	2.95 75	2.4 61	32.38 822.5	16.54 420	16.73 425	17.5 444.5	5.87 149	0.94 24	15.16 385	5.51 140	4.33 110	0.04 1	2.76 70	0.47 12	0.3 7.5	0.79 20	2.36 60	M6		
30 22		25 18.5	16.1 409	12.64 321	8.86 225	14.96 380	7.01 178	6.87 174.5	0.83 21	19.88 505	2.95 75	2.4 61	34.35 872.5	16.54 420	18.3 465	18.25 463.5	5.87 149	0.94 24	15.16 385	5.51 140	4.33 110	0.04 1	2.76 70	0.47 12	0.3 7.5	0.79 20	2.36 60	M6		
40 30		27 20	16.1 409	12.64 321	8.86 225	14.96 380	7.01 178	6.87 174.5	0.83 21	19.88 505	2.95 75	2.4 61	34.35 872.5	16.54 420	18.3 465	18.25 463.5	5.87 149	0.94 24	15.16 385	5.51 140	4.33 110	0.04 1	2.76 70	0.47 12	0.3 7.5	0.79 20	2.36 60	M6		

*1 : Dimensions of the shaft extension key and keyway are based on the standard model of designed in the Japanese Industrial Standard, JIS B1301-1996.

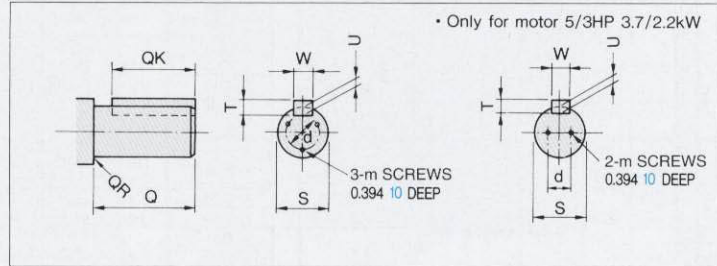
*2 : 5/3-HP (3.7/2.2-kW) model is 15-minute rating / continuous rating.

*3 : 60/50-HP (45/37-kW) model only for the 400V series.

FLANGE-MOUNTED TYPE



Detail of Shaft Extension *1



Note : Eyebolts are not provided for standard 5/3HP 3.7/2.2kW and 7.5/5HP 5.5/3.7kW models.

In inches mm

	Rated Output		HP	L	A	LB	LC	LG	LH	LL	LR	Z	D	I	KD	KL	KI	Shaft Extension											
	30-min Rating	Continuous Rating	kW															Q	QK	QR	S	T	U	W	d	m			
Standard	5*2 3.7	3 2.2	15.43 392	7.28 185	5.91 ⁰⁻⁰⁰⁰² 150 ^{-0.040}	6.85 174	0.47 12	8.66 220	13.07 332	2.36 60	0.43 11	6.85 174	—	1.34 34	5.59 142	6.85 174	2.36 60	1.77 45	0.04 1	1.1 ⁰⁻⁰⁰⁰⁴ 28 ^{-0.0002} -0.034	0.28 7	0.16 4	0.31 8	0.63 16	M6				
	7.5 5.5	5 3.7	19.76 502	7.28 185	5.91 ⁰⁻⁰⁰⁰² 150 ^{-0.040}	6.85 174	0.47 12	8.66 220	17.4 442	2.36 60	0.43 11	6.85 174	—	1.34 34	5.59 142	6.85 174	2.36 60	1.77 45	0.04 1	1.1 ⁰⁻⁰⁰⁰⁵ 28 ^{-0.0003} 7	0.28 7	0.16 4	0.31 8	0.87 22	M4				
	10 7.5	7.5 5.5	20.71 526	8.46 215	7.09 ⁰⁻⁰⁰⁰² 180 ^{-0.040}	8.03 204	0.63 16	9.84 250	17.56 446	3.15 80	0.59 15	8.03 204	10.63 270	1.67 42.5	6.18 157	8.03 204	3.15 80	2.76 70	0.04 1	1.26 ⁰⁻⁰⁰⁰⁸ 32 ^{-0.0016}	0.31 8	0.2 5	0.39 10	0.87 22	M5				
	15 11	10 7.5	23.46 596	8.46 215	7.09 ⁰⁻⁰⁰⁰² 180 ^{-0.040}	8.03 204	0.63 16	9.84 250	19.13 486	4.33 110	0.59 15	8.03 204	10.63 270	1.67 42.5	6.18 157	8.03 204	4.33 110	3.54 90	0.02 0.5	1.89 ⁰⁻⁰⁰⁰⁶ 48 ^{-0.0018}	0.35 9	0.22 5.5	0.55 14	1.57 40	M5				
	20 15	15 11	22.36 568	10.43 265	9.06 ⁰⁻⁰⁰⁰² 230 ^{-0.040}	9.84 250	0.79 20	11.81 300	18.03 458	4.33 110	0.59 15	10.24 260	13.5 343	1.67 42.5	7.19 182.5	9.84 250	4.33 110	3.54 90	0.04 1	1.89 ⁰⁻⁰⁰⁰⁶ 48 ^{-0.0018}	0.35 9	0.22 5.5	0.55 14	1.57 40	M5				
	25 18.5	20 15	23.86 606	10.43 265	9.06 ⁰⁻⁰⁰⁰² 230 ^{-0.040}	9.84 250	0.79 20	11.81 300	19.53 496	4.33 110	0.59 15	10.24 260	13.5 343	1.67 42.5	7.19 182.5	9.84 250	4.33 110	3.54 90	0.04 1	1.89 ⁰⁻⁰⁰⁰⁶ 48 ^{-0.0018}	0.35 9	0.22 5.5	0.55 14	1.57 40	M5				
	30 22	25 18.5	25.28 642	10.43 265	9.06 ⁰⁻⁰⁰⁰² 230 ^{-0.040}	9.84 250	0.79 20	11.81 300	20.94 532	4.33 110	0.59 15	10.24 260	13.5 343	1.67 42.5	7.19 182.5	9.84 250	4.33 110	3.54 90	0.04 1	2.17 ⁰⁻⁰⁰⁰⁴ 55 ^{-0.0011}	0.39 10	0.24 6	0.63 16	1.77 45	M5				
	40 30	30 22	31.26 794	13.78 350	11.81 ⁰⁻⁰⁰⁰² 300 ^{-0.082}	12.6 320	0.79 20	15.16 385	25.75 654	5.51 140	0.75 19	12.6 320	17.32 440	2.4 61	8.82 224	12.6 320	5.51 140	4.33 110	0.08 2	2.36 ⁰⁻⁰⁰¹² 60 ^{-0.0034}	0.43 11	0.28 7	0.71 18	1.97 50	M6				
	50 37	40 30	35.39 899	13.78 350	11.81 ⁰⁻⁰⁰⁰² 300 ^{-0.082}	12.6 320	0.79 20	15.16 385	29.88 759	5.51 140	0.75 19	12.6 320	17.32 440	2.4 61	8.82 224	12.6 320	5.51 140	4.33 110	0.08 2	2.36 ⁰⁻⁰⁰¹² 60 ^{-0.0034}	0.43 11	0.28 7	0.71 18	1.97 50	M6				
	10*3 45	50 37	32.56 827	15.75 400	13.78 ⁰⁻⁰⁰⁰² 350 ^{-0.082}	14.57 370	0.87 22	17.7 450	27.05 687	5.51 140	0.94 24	14.96 380	19.88 505	2.4 61	11.02 280	15.16 385	5.51 140	4.33 110	0.04 1	2.76 ⁰⁻⁰⁰¹² 70 ^{-0.0034}	0.47 12	0.3 7.5	0.79 20	2.36 60	M6				
Winding Selection	7.5 5.5	5 3.7	22.36 568	10.43 265	9.06 ⁰⁻⁰⁰⁰² 230 ^{-0.040}	9.84 250	0.79 20	11.81 300	18.03 458	4.33 110	0.59 15	10.24 260	13.5 343	1.67 42.5	7.19 182.5	9.84 250	4.33 110	3.54 90	0.04 1	1.89 ⁰⁻⁰⁰⁰⁶ 48 ^{-0.0018}	0.35 9	0.22 5.5	0.55 14	1.57 40	M5				
	10 7.5	7.5 5.5	23.86 606	10.43 265	9.06 ⁰⁻⁰⁰⁰² 230 ^{-0.040}	9.84 250	0.79 20	11.81 300	19.53 496	4.33 110	0.59 15	10.24 260	13.5 343	1.67 42.5	7.19 182.5	9.84 250	4.33 110	3.54 90	0.04 1	1.89 ⁰⁻⁰⁰⁰⁶ 48 ^{-0.0018}	0.35 9	0.22 5.5	0.55 14	1.57 40	M5				
	15 11	10 7.5	26.3 668	10.43 265	9.06 ⁰⁻⁰⁰⁰² 230 ^{-0.040}	9.84 250	0.79 20	11.81 300	21.97 558	4.33 110	0.59 15	10.24 260	13.5 343	1.67 42.5	7.19 182.5	9.84 250	4.33 110	3.54 90	0.04 1	2.17 ⁰⁻⁰⁰¹² 55 ^{-0.0031}	0.39 10	0.24 6	0.63 16	1.77 45	M5				
	20 15	15 11	31.26 794	13.78 350	11.81 ⁰⁻⁰⁰⁰² 300 ^{-0.082}	12.6 320	0.79 20	15.16 385	25.75 654	5.51 140	0.75 19	12.6 320	17.32 440	2.4 61	8.82 224	12.6 320	5.51 140	4.33 110	0.08 2	2.36 ⁰⁻⁰⁰¹² 60 ^{-0.0034}	0.43 11	0.28 7	0.71 18	1.97 50	M6				
	25 18.5	20 15	32.56 827	15.75 400	13.78 ⁰⁻⁰⁰⁰² 350 ^{-0.082}	14.57 370	0.87 22	17.7 450	27.05 687	5.51 140	0.94 24	14.96 380	19.88 505	2.4 61	11.02 280	15.16 385	5.51 140	4.33 110	0.04 1	2.76 ⁰⁻⁰⁰¹² 70 ^{-0.0034}	0.47 12	0.3 7.5	0.79 20	2.36 60	M6				
	30 22	25 18.5	34.53 877	15.75 400	13.78 ⁰⁻⁰⁰⁰² 350 ^{-0.082}	14.57 370	0.87 22	17.7 450	29.02 737	5.51 140	0.94 24	14.96 380	19.88 505	2.4 61	11.02 280	15.16 385	5.51 140	4.33 110	0.04 1	2.76 ⁰⁻⁰⁰¹² 70 ^{-0.0034}	0.47 12	0.3 7.5	0.79 20	2.36 60	M6				
	40 30	27 20	34.53 877	15.75 400	13.78 ⁰⁻⁰⁰⁰² 350 ^{-0.082}	14.57 370	0.87 22	17.7 450	29.02 737	5.51 140	0.94 24	14.96 380	19.88 505	2.4 61	11.02 280	15.16 385	5.51 140	4.33 110	0.04 1	2.76 ⁰⁻⁰⁰¹² 70 ^{-0.0034}	0.47 12	0.3 7.5	0.79 20	2.36 60	M6				

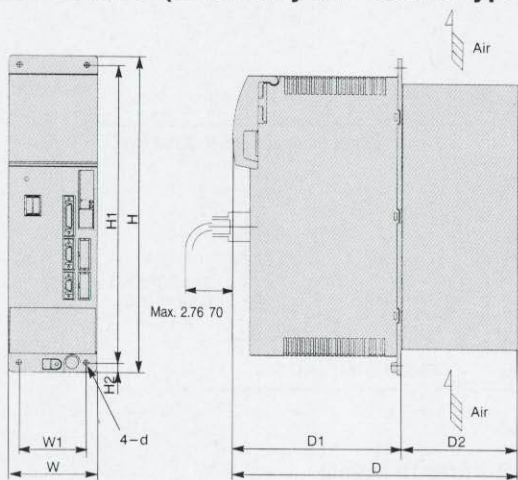
*1 : Dimensions of the shaft extension key and keyway are based on the standard model of designed in the Japanese Industrial Standard, JIS B1301-1996.

*2 : 5/3-HP (3.7/2.2-kW) model is 15-minute rating / continuous rating. The model is not furnished with eyebolts.

*3 : 60/50-HP (45/37-kW) model only for the 400V series.

INVERTER (VS-626M5) / CONVERTER (VS-656MR5)

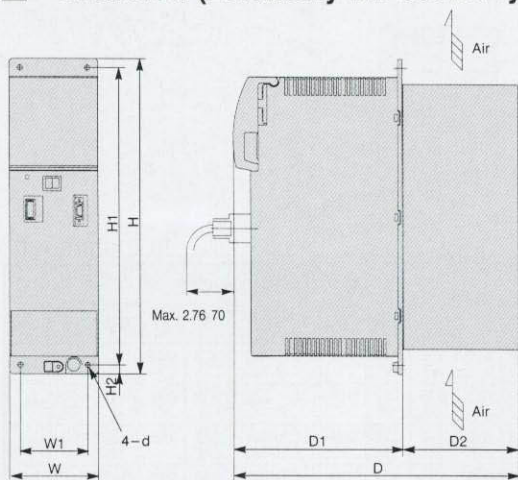
■ Inverter (Externally fan-cooled type, without fan)



Model CIMR-M5*	In inches mm									Approx. Mass lb kg	d
	W	H	D	W1	H1	H2	D1	D2			
23P7	3.94	13.78	12.6	2.95	12.99	0.39	7.48	5.12	11	M5	
25P5	100	350	320	75	330	10	190	130	5		
27P5											
2011											
2015	5.91	13.78	12.6	3.94	12.99	0.39	7.48	5.12	26.5	M5	
2018	150	350	320	100	330	10	190	130	12		
2022											
2030	7.87	13.78	12.6	5.91	12.99	0.39	7.48	5.12	35.3	M5	
	200	350	320	150	330	10	190	130	16		
2037	11.81	13.78	12.6	9.84	12.99	0.39	7.48	5.12	57.3	M6	
	300	350	320	250	330	10	190	130	26		
45P5	3.94	13.78	12.6	2.95	12.99	0.39	7.48	5.12	11	M5	
47P5	100	350	320	75	330	10	190	130	5		
4011											
4015	5.91	13.78	12.6	3.94	12.99	0.39	7.48	5.12	26.5	M5	
4018	150	350	320	100	330	10	190	130	12		
4022											
4030											
4037	9.84	13.78	12.6	7.87	12.99	0.39	7.48	5.12	35.3	M5	
4045	250	350	320	200	330	10	190	130	16		

* A: For stand alone drive, N: For NC system

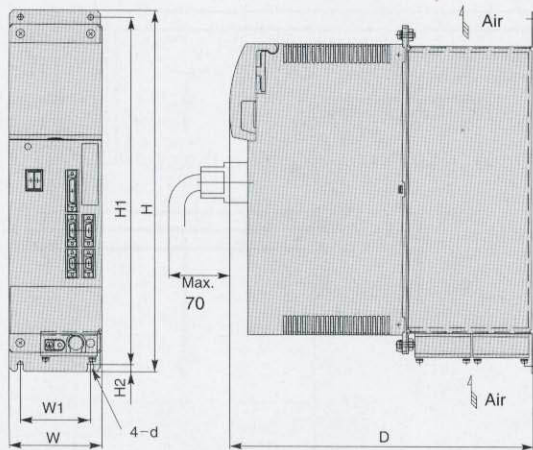
■ Converter (Externally fan-cooled type, without fan)



Model CIMR-MR5*	In inches mm									Approx. Mass lb kg	d
	W	H	D	W1	H1	H2	D1	D2			
23P7	3.94	13.78	12.6	2.95	12.99	0.39	7.48	5.12	11	M5	
25P5	100	350	320	75	330	10	190	130	5		
27P5											
2011											
2015	5.91	13.78	12.6	3.94	12.99	0.39	7.48	5.12	26.5	M5	
2018	150	350	320	100	330	10	190	130	12		
2022											
2030	7.87	13.78	12.6	5.91	12.99	0.39	7.48	5.12	35.3	M5	
	200	350	320	150	330	10	190	130	16		
2037	11.81	13.78	12.6	9.84	12.99	0.39	7.48	5.12	57.3	M6	
	300	350	320	250	330	10	190	130	26		
45P5	3.94	13.78	12.6	2.95	12.99	0.39	7.48	5.12	11	M5	
47P5	100	350	320	75	330	10	190	130	5		
4011											
4015	5.91	13.78	12.6	3.94	12.99	0.39	7.48	5.12	26.5	M5	
4018	150	350	320	100	330	10	190	130	12		
4022											
4030											
4037	9.84	13.78	12.6	7.87	12.99	0.39	7.48	5.12	35.3	M5	
4045	250	350	320	200	330	10	190	130	16		

* A: For stand alone drive, N: For NC system

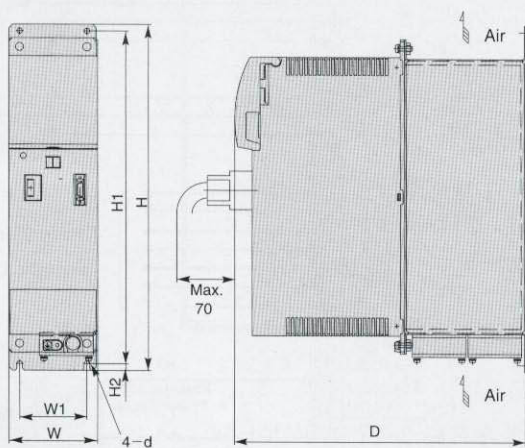
Inverter (Open chassis type)



Model CIMR-M5*	In inches mm						Approx. Mass		d
	W	H	D	W1	H1	H2	lb	kg	
23P7	3.94	15.16	12.76	2.95	14.57	0.3	13.2		M5
25P5	100	385	324	75	370	7.5	6		
27P5								35.3	
2011								16	
2015	5.91	18.5	12.76	3.94	17.91	0.26		36.4	
2018	150	470	324	100	455	6.5		16.5	M5
2022								47.4	
2030	7.87	18.5	12.76	5.91	17.91	0.26		21.5	
2037	11.81	18.5	12.76	9.84	17.91	0.28		77.2	
	300	470	324	250	455	7		35	
45P5	3.94	15.16	12.76	2.95	14.57	0.3	15.4		M5
47P5	100	385	324	75	370	7.5	7		
4011								35.3	
4015	5.91	18.5	12.76	3.94	17.91	0.26		16	
4018	150	470	324	100	455	6.5		36.4	
4022								16.5	M6
4030	9.84	18.5	12.76	7.87	17.91	0.28	55.1		
4037	250	470	324	200	455	7	25		
4045									

* A: For stand alone drive, N: For NC system

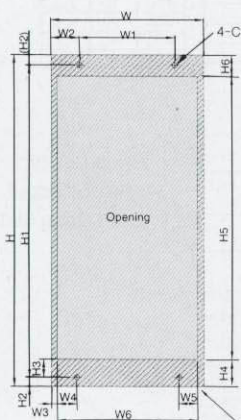
Converter (Open chassis type)



Model CIMR-MR5*	In inches mm						Approx. Mass		d
	W	H	D	W1	H1	H2	lb	kg	
23P7	3.94	15.16	12.76	2.95	14.57	0.3	13.2		M5
25P5	100	385	324	75	370	7.5	6		
27P5								35.3	
2011								16	
2015	5.91	18.5	12.76	3.94	17.91	0.26		36.4	
2018	150	470	324	100	455	6.5		16.5	M5
2022								47.4	
2030	7.87	18.5	12.76	5.91	17.91	0.26		21.5	
2037	11.81	18.5	12.76	9.84	17.91	0.28		88.2	
	300	470	324	250	455	7		40	
45P5	3.94	15.16	12.76	2.95	14.57	0.3	17.6		M5
47P5	100	385	324	75	370	7.5	8		
4011								35.3	
4015	5.91	18.5	12.76	3.94	17.91	0.26		16	
4018	150	470	324	100	455	6.5		36.4	
4022								16.5	M6
4030	9.84	18.5	12.76	7.87	17.91	0.28	66.1		
4037	250	470	324	200	455	7	30		
4045									

* A: For stand alone drive, N: For NC system

Panel Cutout (Both for Inverter and Converter)



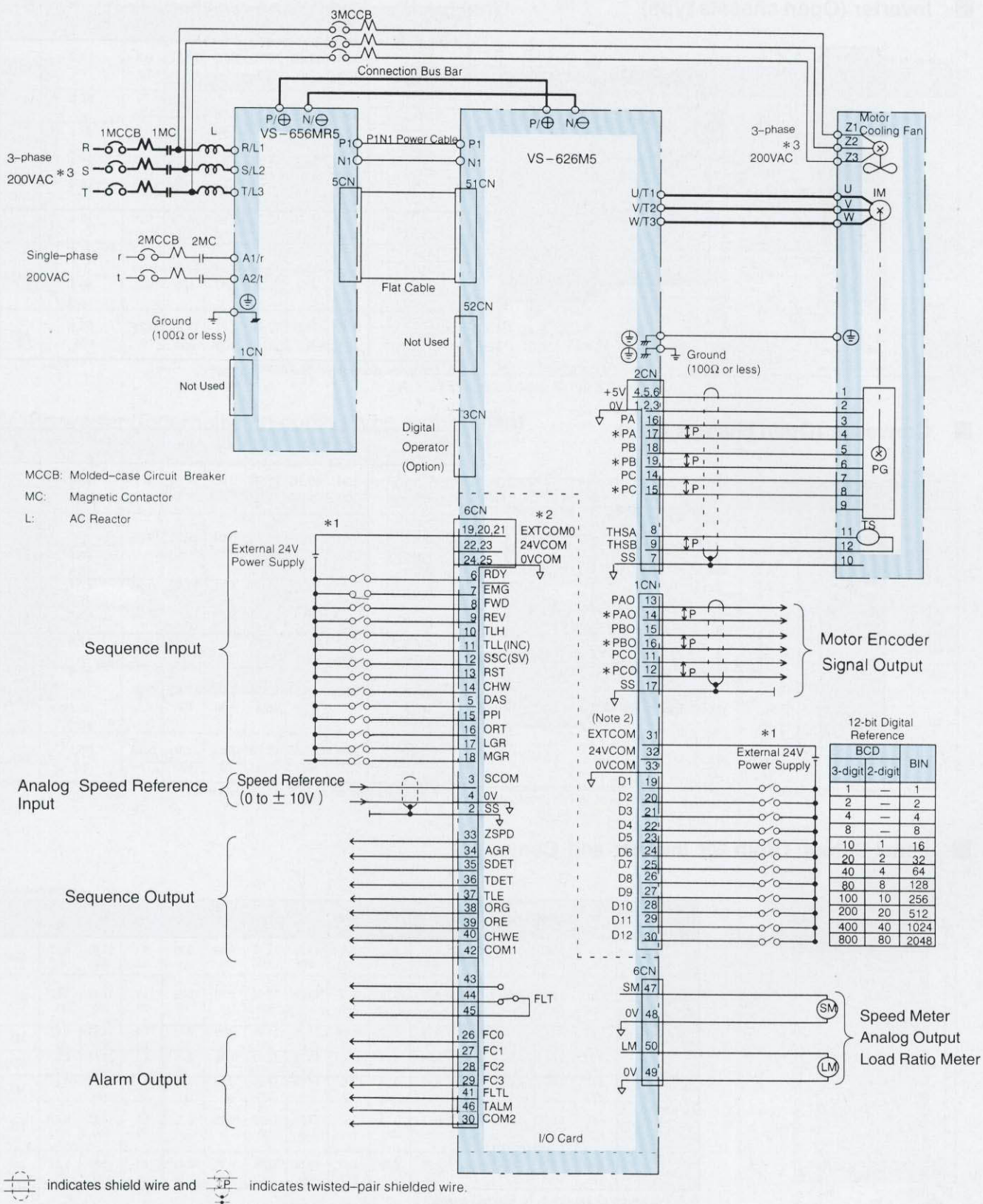
Model CIMR-M5* CIMR-MR5*	In inches mm																C
	W	W1	W2	W3	W4	W5	W6	H	H1	H2	H3	H4	H5	H6			
23P7	3.9	2.95	0.47	0.14	0.33	0.22	3.5	13.78	12.99	0.39	0.71	1.1	11.81	0.87			M5
25P5	99	75	12	3.5	8.5	5.5	89	350	330	10	18	28	300	22			
27P5																	
2011																	
2015	5.87	3.94	0.96	0.18	0.79	0.79	5.51	13.78	12.99	0.39	0.71	1.1	11.81	0.87			
2018	149	100	24.5	4.5	20	20	140	350	330	10	18	28	300	22			M5
2022																	
2030	7.83	5.91	0.96	0.18	0.79	0.79	7.48	13.78	12.99	0.39	0.71	1.1	11.81	0.87			
	199	150	24.5	4.5	20	20	190	350	330	10	18	28	300	22			
2037	11.77	9.84	0.96	0.18	0.79	0.79	11.42	13.78	12.99	0.39	0.71	1.1	11.81	0.87			
	299	250	24.5	4.5	20	20	290	350	330	10	18	28	300	22			M6
45P5	3.9	2.95	0.47	0.14	0.33	0.22	3.5	13.78	12.99	0.39	0.71	1.1	11.81	0.87			
47P5	99	75	12	3.5	8.5	5.5	89	350	330	10	18	28	300	22			
4011																	
4015	5.87	3.94	0.96	0.18	0.79	0.79	5.51	13.78	12.99	0.39	0.71	1.1	11.81	0.87			
4018	149	100	24.5	4.5	20	20	140	350	330	10	18	28	300	22			M5
4022																	
4030	9.8	7.87	0.96	0.18	0.79	0.79	9.45	13.78	12.99	0.39	0.71	1.1	11.81	0.87			
4037	249	200	24.5	4.5	20	20	240	350	330	10	18	28	300	22			
4045																	

* A: For stand alone drive, N: For NC system

Dust Gasket (Hatched Area)

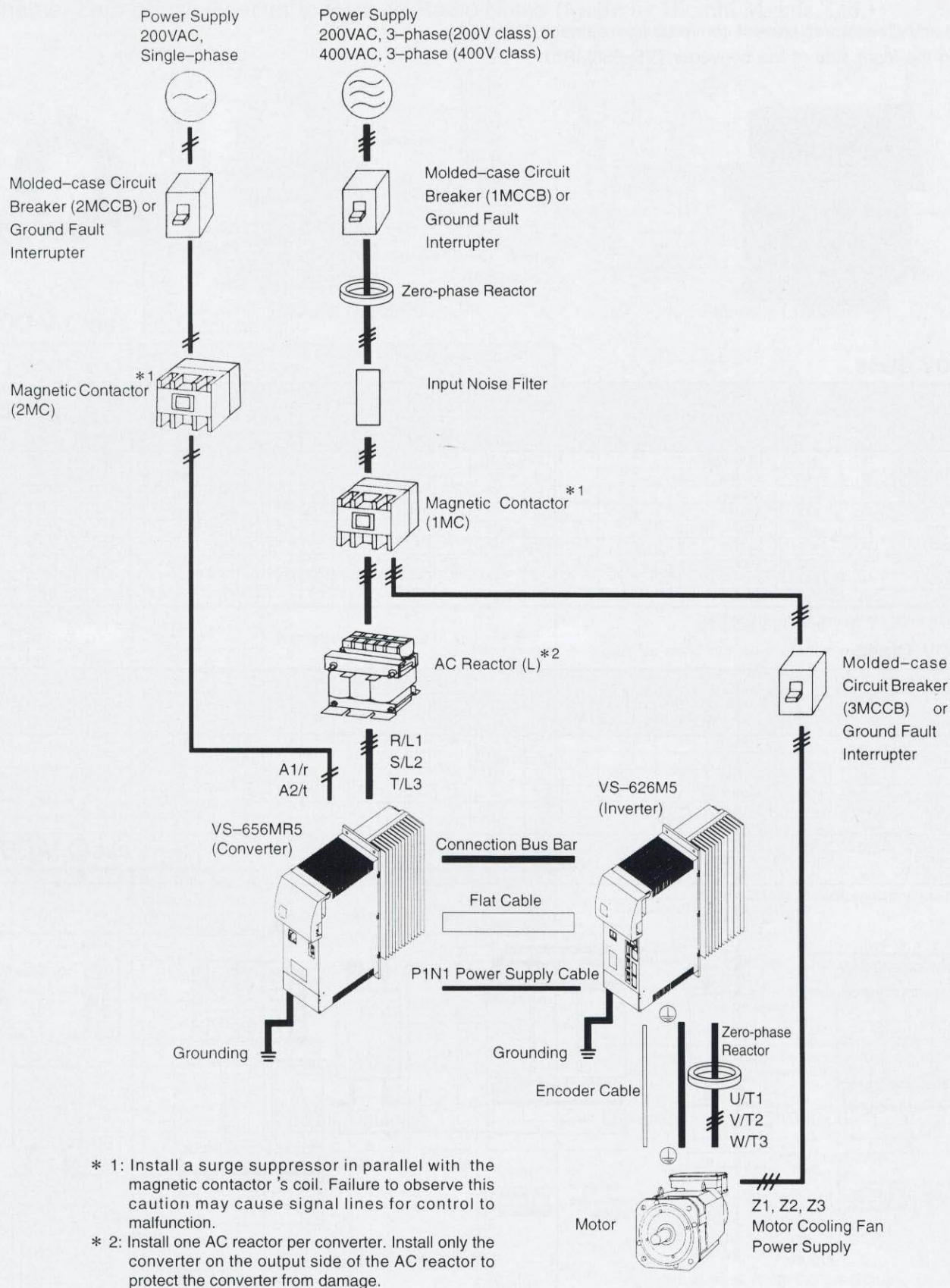
Note : Gasket is attached on mounting area of converter and inverter units.

STANDARD CONNECTION DIAGRAM



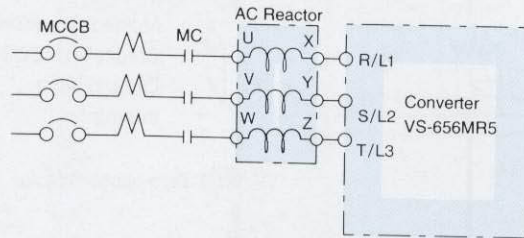
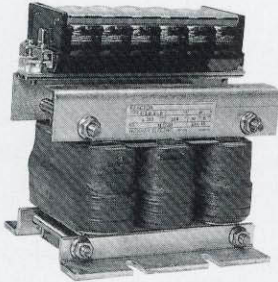
PERIPHERAL DEVICES

STANDARD CONNECTION EXAMPLE



AC REACTOR

Use an AC reactor to prevent converter from damage. Connect it on the input side of the converter (VS-656MR5).



200V Class

Converter Model CIMR-MR5 *	Current A	Inductance mH	Code No.	Fig. No.	Dimensions																Approx. Mass lb kg	Heat Loss W
					A (Max.)	A1	B	B1 (Max.)	B2	C1	C2	D	E	F	I	J	K	L	M			
23P7	20	0.53	X010057	1	5.12 130	—	3.46 88	2.36 60	1.73 44	4.13±0.2 105±5	0.98 25	1.97 50	2.76 70	5.12 130	0.13 3.2	M6	0.35 9	0.28 7	M4	6.6 3	35	
25P5	30	0.35	X010058	1	5.12 130	—	3.46 88	2.36 60	1.73 44	4.13±0.2 105±5	1.57 40	1.97 50	2.76 70	5.12 130	0.13 3.2	M6	0.35 9	0.28 7	M5	6.6 3	45	
27P5	40	0.265	X010059	2	5.12 130	5.91 150	3.86 98	2.56 65	1.93 49	4.13±0.2 105±5	1.57 40	1.97 50	3.15 80	5.12 130	0.13 3.2	M6	0.35 9	0.28 7	M6	8.8 4	50	
2011	60	0.18	X010060	1	6.3 160	—	4.13 105	2.95 75	2.07 52	5.12±0.2 130±5	1.57 40	2.95 75	3.35 85	6.3 160	0.09 2.3	M6	0.39 10	0.28 7	M6	13.2 6	65	
2015	80	0.13	X010061	1	7.09 180	—	3.94 100	3.35 85	1.97 50	5.91±0.2 150±5	1.65 42	2.95 75	3.15 80	7.09 180	0.09 2.3	M6	0.39 10	0.28 7	M6	17.6 8	75	
2018	90	0.12	X010062	2	7.09 180	7.48 190	3.94 100	3.54 90	1.97 50	5.91±0.2 150±5	1.77 45	2.95 75	3.15 80	7.09 180	0.09 2.3	M6	0.39 10	0.28 7	M8	17.6 8	90	
2022	120	0.09	X010063	2	7.09 180	7.48 190	3.94 100	3.74 95	1.97 50	5.91±0.2 150±5	1.77 45	2.95 75	3.15 80	7.09 180	0.09 2.3	M6	0.39 10	0.28 7	M8	17.6 8	90	
2030	160	0.07	X010064	3	8.27 210	—	3.94 100	8.27 210	—	6.89±0.2 175±5	4.33 110	2.95 75	3.15 80	8.07 205	0.09 2.3	M6	0.39 10	0.28 7	M10	26.5 12	100	
2037	200	0.05	X010120	3	8.27 210	—	4.57 116	9.06 230	—	6.89±0.2 175±5	5.12 130	2.95 75	3.74 95	8.07 205	0.09 2.3	M6	0.39 10	0.28 7	M10	33.1 15	110	

* A: For stand alone drive, N: For NC system

400V Class

Converter Model CIMR-MR5*	Current	Inductance	Code No.	Fig. No.	Dimensions																Approx. Mass lb kg	Heat Loss W
					A (Max.)	A1	B	B1 (Max.)	B2	C1	C2	D	E	F	I	J	K	L	M			
45P5	15	1.42	X002501	1	5.12 130	—	3.86 98	—	1.93 49	4.13±0.2 105±5	0.98 25	1.97 50	3.15 80	5.12 130	0.13 3.2	M6	0.35 9	0.28 7	M4	8.8 4	50	
47P5	20	1.06	X010099	1	6.3 160	—	3.54 90	1.97 50	1.77 45	5.12±0.2 130±5	0.98 25	2.95 75	2.76 70	6.3 160	0.09 2.3	M6	0.39 10	0.28 7	M4	11 5	50	
4011	30	0.7	X010100	1	6.3 160	—	4.13 105	3.74 95	2.07 52	5.91±0.2 150±5	1.57 40	2.95 75	3.35 85	6.3 160	0.09 2.3	M6	0.39 10	0.28 7	M5	13.2 6	65	
4015	40	0.53	X010101	1	7.09 180	—	3.94 100	3.35 85	1.97 50	5.91±0.2 150±5	1.57 40	2.95 75	3.15 80	7.09 180	0.09 2.3	M6	0.39 10	0.28 7	M6	17.6 8	90	
4018	50	0.42	X010102	1	7.09 180	—	3.94 100	3.35 85	1.97 50	5.91±0.2 150±5	1.57 40	2.95 75	3.15 80	7.09 180	0.09 2.3	M6	0.39 10	0.28 7	M6	17.6 8	90	
4022	60	0.36	X010103	1	7.09 180	—	3.94 100	3.35 85	1.97 50	5.91±0.2 150±5	1.57 40	2.95 75	3.15 80	7.09 180	0.09 2.3	M6	0.39 10	0.28 7	M6	17.6 8	90	
4030	80	0.26	X010104	1	8.27 210	—	3.94 100	3.54 90	1.97 50	6.89±0.2 175±5	1.77 45	2.95 75	3.15 80	8.07 205	0.13 3.2	M6	0.39 10	0.28 7	M6	26.5 12	95	
4037	90	0.24	X010105	1	8.27 210	—	4.57 116	4.33 110	2.28 58	6.89±0.2 175±5	1.89 48	2.95 75	3.74 95	8.07 205	0.13 3.2	M6	0.39 10	0.28 7	M8	33.1 15	110	
4045	120	0.18	X010106	1	9.45 240	—	4.96 126	4.72 120	2.48 63	8.07±0.2 205±5	0.71 18	5.91 150	4.33 110	9.45 240	0.13 3.2	M8	0.31 8	0.39 10	M8	50.7 23	130	

* A: For stand alone drive, N: For NC system

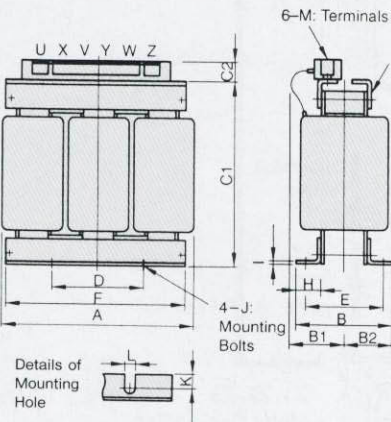


Figure 1

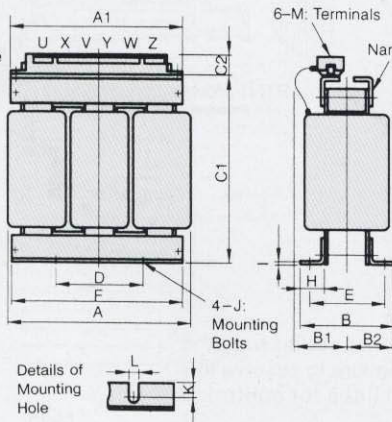


Figure 2

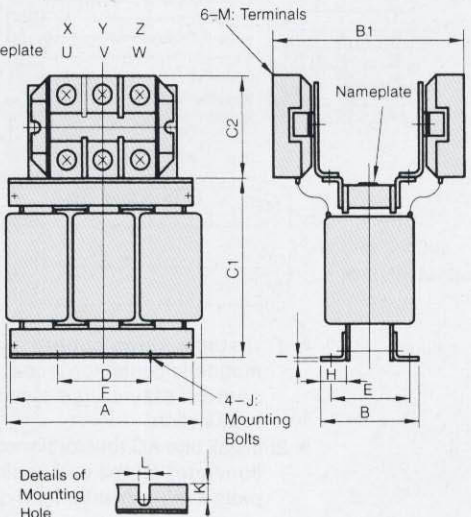
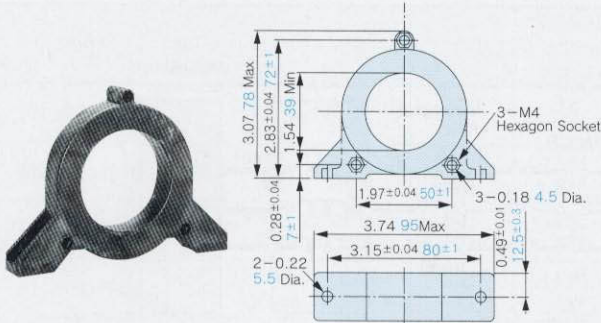


Figure 3

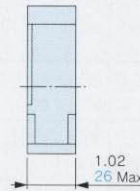
ZERO-PHASE REACTOR

Finemet Zero-phase Reactor to Reduce Radio Noise (Made by Hitachi Metals, Ltd.)

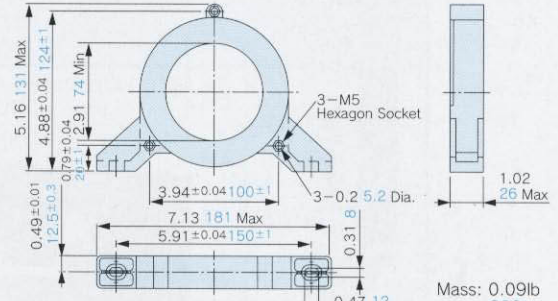
Note: Finemet is a registered trademark of Hitachi Metals, Ltd.



Model F6045GB



Mass: 0.03lb
195g

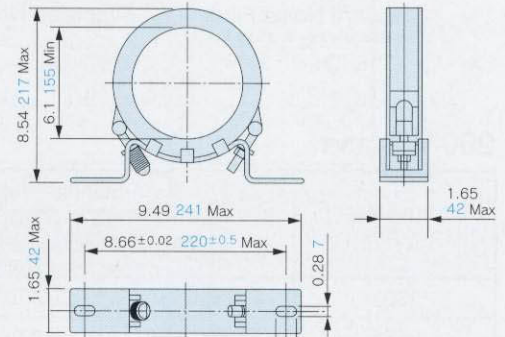


Model F11080GB

200 V Class

	Model CIMR- Input Side	Recommended Wire Size mm ²		Finemet Zero-phase Reactor			
		Input Side	Output Side	Model	Code No.	Qty.	Recommended Wiring Method
Inverter	M5*23P7	-	5.5	F6045GB	FIL001098	1	4 passes through core (Diagram A)
	M5*25P5	-	5.5				
	M5*27P5	-	8	F11080GB	FIL001097	4	4 series (Diagram B)
	M5*2011	-	14				
	M5*2015	-	22	F6045GB	FIL001098	4	4 series (Diagram B)
	M5*2018	-	30				
	M5*2022	-	50	F1180GB	FIL001097	4	4 series (Diagram B)
	M5*2030	-	80				
Converter	MR5*23P7	2	-	F6045GB	FIL001098	1	4 passes through core (Diagram A)
	MR5*25P5	3.5	-			1	
	MR5*27P5	3.5	-	F1180GB	FIL001097	1	
	MR5*2011	8	-			4	4 series (Diagram B)
	MR5*2015	14	-			4	4 series (Diagram B)
	MR5*2018	22	-	F6065GB	FIL001098		
	MR5*2022	22	-			4	4 series (Diagram B)
	MR5*2030	38	-	F1180GB	FIL001097		
	MR5*2037	50	-			4	

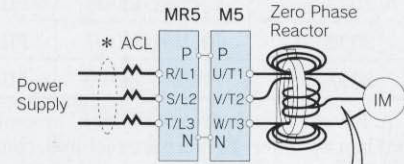
* A: For stand alone drive, N: For NC system



Model F200160PB

Can be used not only on the output side of the inverter but also on the input side of the converter. Also, a zero-phase reactor reduces noise.

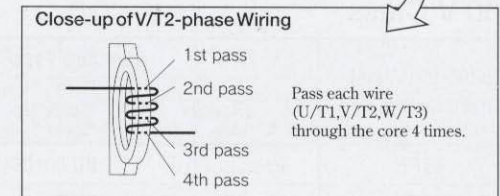
Connection Diagram A (Output)



400 V Class

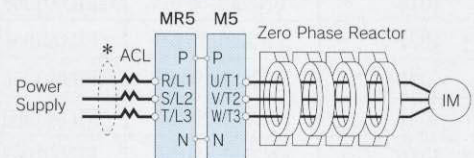
	Model CIMR- Input Side	Recommended Wire Size mm ²		Finemet Zero-phase Reactor			
		Input Side	Output Side	Model	Code No.	Qty.	Recommended Wiring Method
Inverter	M5*45P5	-	2	F6045GB	FIL001098	1	4 passes through core (Diagram A)
	M5*47P5	-	3.5			1	
	M5*4011	-	5.5	F1180GB	FIL001097	1	
	M5*4015	-	8			4	4 series (Diagram B)
	M5*4018	-	14			4	4 series (Diagram B)
	M5*4022	-	14	F6045GB	FIL001098		
	M5*4030	-	22			4	4 series (Diagram B)
	M5*4037	-	30	F1180GB	FIL001097		
Converter	MR5*45P5	2	-			1	4 passes through core (Diagram A)
	MR5*47P5	2	-			1	
	MR5*4011	3.5	-	F6045GB	FIL001098	1	
	MR5*4015	3.5	-			4	4 series (Diagram B)
	MR5*4018	5.5	-			4	4 series (Diagram B)
	MR5*4022	8	-	F1180GB	FIL001097		
	MR5*4030	14	-			4	4 series (Diagram B)
	MR5*4037	22	-	F6045GB	FIL001098		
	MR5*4045	22	-			4	

* A: For stand alone drive, N: For NC system



*: If a zero-phase reactor is used on the input side of the converter, install the reactor on the primary AC line (ACL).

Connection Diagram B (Output)

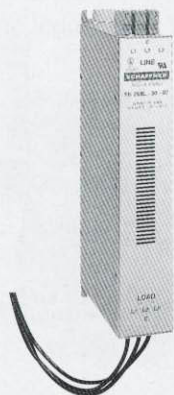


Put all wires (U/T1, V/T2, W/T3) through 4 cores in series without winding.

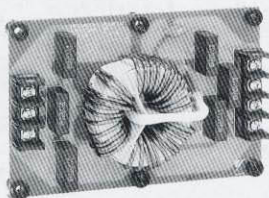
*: If a zero-phase reactor is used on the input side of the converter, install the reactor on the primary AC line (ACL).

NOISE FILTER

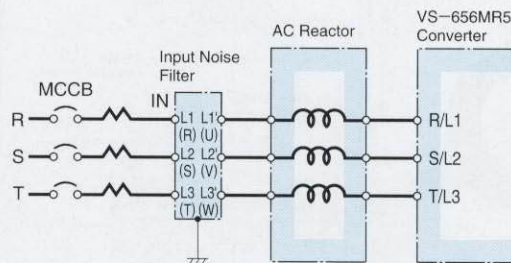
The following diagrams and tables show standard and simplified noise filters for the input lines.



Standard Noise Filter
[Manufactured by Shaffner EMC, Inc.]



Simplified Noise Filter



Example of Input Noise Filter Connection

Notes : 1 Symbols in parentheses are for simplified noise filters.
2 Be sure to connect input noise filters on AC reactor's primary side.

200 V Class

Converter Model CIMR-MR5*1	Standard Type				Simplified Type *2			
	Model	Code No.	Qty.	Rated Current A	Model	Code No.	Qty.	Rated Current A
23P7	FN258L-30-07	FIL001064	1	30	LNFD-2303HY	72600-D2303HY	1	30
25P5	FN258L-42-07	FIL001065	1	42	LNFD-2203HY	72600-D2203HY	2	40
27P5	FN258L-55-07	FIL001066	1	55	LNFD-2303HY	72600-D2303HY	2	60
2011	FN258L-75-34	FIL001067	1	75	LNFD-2303HY	72600-D2303HY	3	90
2015	FN258L-100-35	FIL001068	1	100	LNFD-2303HY	72600-D2303HY	3	90
2018	FN258L-100-35	FIL001068	1	100	LNFD-2303HY	72600-D2303HY	4	120
2022	FN258L-130-35	FIL001069	1	130	LNFD-2303HY	72600-D2303HY	4	120
2030	FN258L-180-07	FIL001070	1	180	—	—	—	—
2037	FN359P-250-99	FIL001071	1	250	—	—	—	—

*1: A: For stand alone drive, N: For NC system

*2: When two filters or more are required, connect them in parallel.

400 V Class

Converter Model CIMR-MR5*1	Standard Type				Simplified Type *2			
	Model	Code No.	Qty.	Rated Current A	Model	Code No.	Qty.	Rated Current A
45P5	FN258L-30-07	FIL001064	1	30	LNFD-4203HY	72600-D4203HY	1	20
47P5	FN258L-30-07	FIL001064	1	30	LNFD-4303HY	72600-D4303HY	1	30
4011	FN258L-42-07	FIL001065	1	42	LNFD-4203HY	72600-D4203HY	2	40
4015	FN258L-55-07	FIL001066	1	55	LNFD-4303HY	72600-D4303HY	2	60
4018	FN258L-55-07	FIL001066	1	55	LNFD-4303HY	72600-D4303HY	2	60
4022	FN258L-75-34	FIL001067	1	75	LNFD-4303HY	72600-D4303HY	3	90
4030	FN258L-100-35	FIL001068	1	100	LNFD-4303HY	72600-D4303HY	3	90
4037	FN258L-130-35	FIL001069	1	130	LNFD-4303HY	72600-D4303HY	4	120
4045	FN258L-130-35	FIL001069	1	130	LNFD-4303HY	72600-D4303HY	4	120

*1: A: For stand alone drive, N: For NC system

*2: When two filters or more are required, connect them in parallel.

■ Dimensions in inches mm

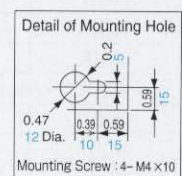
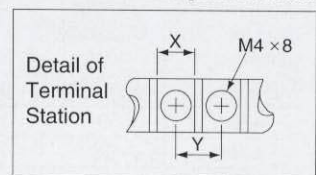
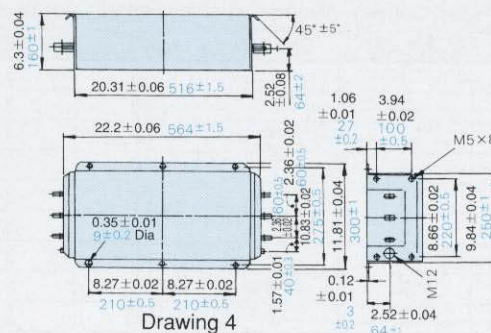
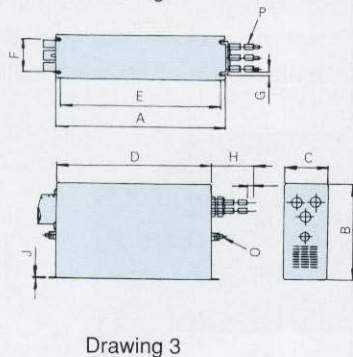
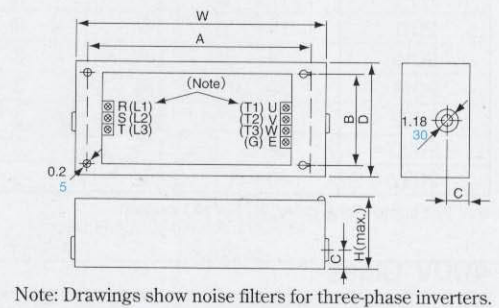
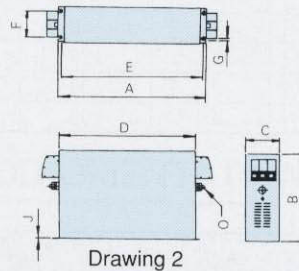
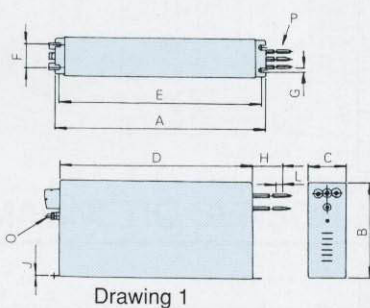
• Standard Type

Model	DWG	A	B	C	D	E	F	G	H	J	L	O	P	Mass lb kg
FN258L-30-07	1	13.19 335	5.91±0.04 150±1	2.36 60	12 305	12.6 320	1.38 35	0.26 6.5	15.75 400	0.04±0.004 1±0.1	0.35 9	M5	AWG10	4 1.8
FN258L-42-07	1	12.95 329	7.28±0.04 185±1	2.76 70	11.81 300	12.36 314	1.77 45	0.26 6.5	19.69 500	0.06 1.5	0.47 12	M6	AWG8	6.2 2.8
FN258L-55-07	1	12.95 329	7.28±0.04 185±1	3.15 80	11.81 300	12.36 314	2.17 55	0.26 6.5	19.69 500	0.06 1.5	0.47 12	M6	AWG6	6.8 3.1
FN258L-75-34	2	12.95 329	8.66 220	3.15 80	11.81 300	12.36 314	2.17 55	0.26 6.5	—	0.06 1.5	—	M6	—	8.8 4.0
FN258L-100-35	2	14.92±0.06 379±1.5	8.66 220	3.54±0.03 90±0.8	13.78±0.05 350±1.2	14.33 364	2.56 65	0.26 6.5	—	0.06 1.5	—	M10	—	12.1 5.5
FN258L-130-35	2	17.28±0.06 439±1.5	9.45 240	4.33±0.03 110±0.8	15.75±0.05 400±1.2	16.3 414	3.15 80	0.26 6.5	—	0.12 3	—	M10	—	16.5 7.5
FN258L-180-07	3	17.24±0.06 438±1.5	9.45 240	4.33±0.03 110±0.8	15.75±0.05 400±1.2	16.26 413	3.15 80	0.26 6.5	19.69 500	0.16 4	0.59 15	M10	50mm ²	24.3 11
FN359P-250-99	4	See dimensions in the drawing.												35.3 16

• Simplified Type

Model	Code No.	DWG	Noise Filter						Terminal		Mass lb kg
			W	D	H	A	B	C	X	Y	
LNFD-2203HY	72600-D2203HY	5	9.45 240	4.92 125	3.94 100	8.27 210	3.74 95	1.3 33	0.35 9	0.43 11	3.3 1.5
LNFD-2303HY	72600-D2303HY	5	9.45 240	4.92 125	3.94 100	8.27 210	3.74 95	1.3 33	0.39 10	0.51 13	3.5 1.6
LNFD-4203HY	72600-D4203HY	5	10.63 270	6.1 155	4.92 125	9.45 240	4.92 125	1.69 43	0.35 9	0.43 11	4.9 2.2
LNFD-4303HY	72600-D4303HY	5	10.63 270	6.1 155	4.92 125	9.45 240	4.92 125	1.69 43	0.39 10	0.51 13	4.9 2.2

■ Drawings in inches mm

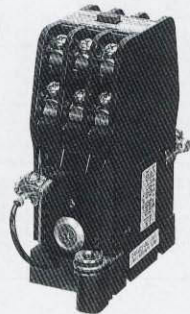


MOLDED-CASE CIRCUIT BREAKER/MAGNETIC CONTACTOR

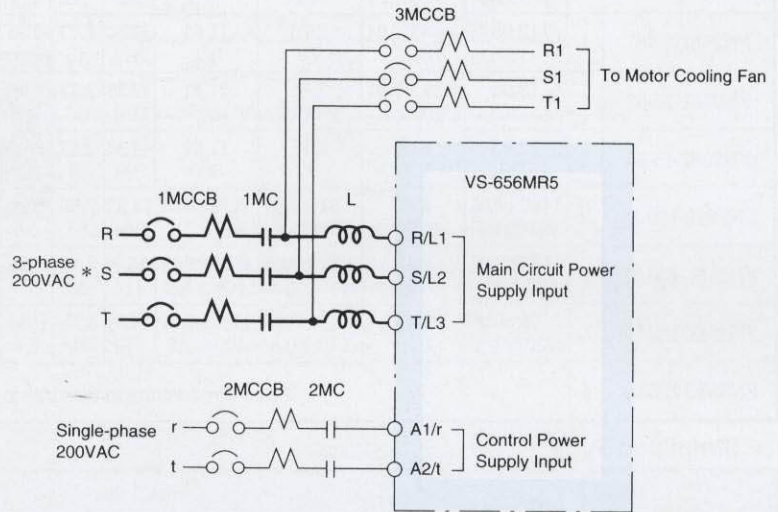
Connect MCCBs between main circuit power supply and converter (VS-656MR5) input terminals R, S and T. Connect MC if required.



Molded-case Circuit Breaker (MCCB)



Power Supply Magnetic Contactor (MC)



* : For 400V class, 3-phase 400VAC is used.

200V Class

Converter Model CIMR-MR5*	Power Capacity kVA	MCCB Rated Current A			MC Rated Current A	
		1MCCB	1MCCB	2MCCB	3MCCB	1MC
23P7	7	30	3	3	20	3
25P5	9	40	3	3	30	3
27P5	12	50	3	3	40	3
2011	19	75	3	3	60	3
2015	24	100	3	3	75	3
2018	30	125	3	3	100	3
2022	36	150	3	3	125	3
2030	48	175	3	3	150	3
2037	60	250	3	3	200	3

* A: For stand alone drive, N: For NC system

400V Class

Converter Model CIMR-MR5*	Power Capacity kVA	MCCB			MC	
		Rated Current A			Rated Current A	
	1MCCB	1MCCB	2MCCB	3MCCB	1MC	2MC
45P5	9	20	3	2	15	3
47P5	12	25	3	2	20	3
4011	19	40	3	2	30	3
4015	24	50	3	2	40	3
4018	30	60	3	2	50	3
4022	36	75	3	2	60	3
4030	48	100	3	2	80	3
4037	60	125	3	2	100	3
4045	72	150	3	2	125	3

* A: For stand alone drive, N: For NC system

OPTION

DIGITAL OPERATOR

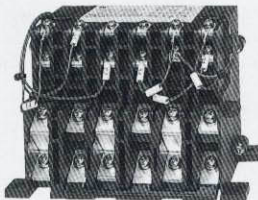
With digital operator, remote operation, visible setting and monitoring can be performed.



Item	Type	Description
Digital Operator	JVOP-132	Constant setting/reference, operation status monitoring, fault display and run/stop can be performed.
Extension Cable	W5301	1m
	W5303	3m
		Required when using a digital operator.

MAGNETIC CONTACTOR FOR WINDING SELECTION

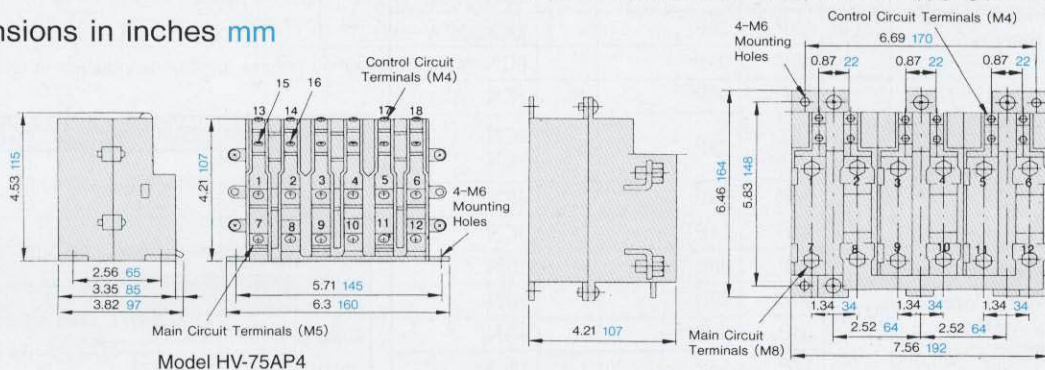
This is a compact magnetic contactor developed for motor winding selection operation. It is composed of transfer structural contacts, can be driven directly by an inverter. A mechanical lifetime of 5 million times or more is assured.



Model	HV-75AP4	HV-150AP4	HV-200AP4
Contact	Main contact : 3NO3NC, auxiliary contact : 1NO		
Rated Insulation Voltage	600V		
Rated Applying Current	Continuous 75A	150A	200A
	30minutes* 87A	175A	226A
Breaking Current Capacity	220V 200A	400A	400A
	440V 150A	300A	300A
Open/close Frequency	600 times/hr		
Mechanical Duration of Life	5 million times		
Control Magnetic Coil Rating	200V 50/60Hz, 220V 50/60Hz, 230V 60Hz		
Mass	lb 5.5	2.5	11
	kg 5.0	12.1	5.5
Ambient Temperature	+14 to 131°F -10 to +55°C		
Humidity	10 to 95 % RH (Non-condensing)		
Applicable Inverter	220V 3.7kW to 15kW	18.5kW to 30kW	37kW
Capacity	400V 5.5kW to 15kW	18.5kW to 30kW	37kW to 45kW

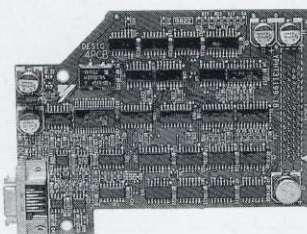
* : 1-hour or more dwell time is required after applying power supply for 30 minutes.

Dimensions in inches mm



MAGNETIC SENSOR METHOD ORIENTATION

A magnetizer is mounted on the load shaft rotor and magnetic sensor on the fixed section to detect the position for constant angle positioning.



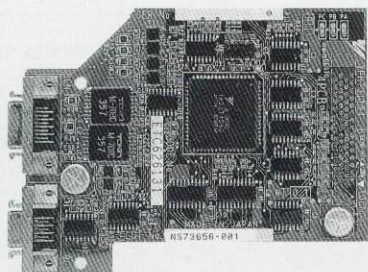
Item	Contents
Position Detection	Detects position change by magnetic flux change using magneto and magnetic sensor
Stop Position*1	Stops at position facing magneto and center of magnetic sensor head Adjustable in the range of $\pm 2^\circ$ by control constants
Stop Position Repetition Accuracy*1	$\pm 0.2^\circ$ or less
Resistant Torque*1	Continuous rated torque/ $\pm 0.1^\circ$ displacement*2
Orientation Card	Code No. : ETC 62614X
Magnetizer	Type : MG-1378BS : MG-1444S Note : Standard type is MG-1378BS
Magnetic Sensor	Type : FS-1378C : FS-200A Note : Standard type is FS-1378C

*1: When a magnetizer is mounted on 120 diameter load axis circumference, excluding mechanical errors or errors caused by external magnetic field.

*2: Continuous rated torque may not be obtained according to gain setting. Displacement becomes larger following rapid load variation.

ENCODER METHOD ORIENTATION

Positioning is performed based on the stop angle command of 12-bit binary or 3-digit BCD, dividing one rotation into 4096 using the load shaft encoder signal and encoder type orientation card.



Item	Contents
Positioning	Absolute or incremental method
Position Detection	Detects angle by A,B or C generating pulses of load shaft encoder
Stop Position* ¹	Stops at the position set by external or internal command according to load shaft origin.* ² Angular resolution is 0.088° (=360°/4096).
Stop Position Repetition Accuracy* ¹	±0.2° or below
Resistant Torque* ¹	Continuous rated torque/±0.1 displacement* ³
Orientation Card	Code No. : ETC62613X
Load-shaft Encoder	Type NE-1024-2MD

*1: Functional errors such as backlash, eccentricity, etc. are excluded.

*2: Origin can be obtained by setting constant memory to the number of offset pulses from the encoder phase-C pulse startup at forward run load.

*3: Continuous rated torque may not be obtained according to gain setting. Displacement becomes larger following rapid load variation.

CONNECTOR

Required connector differs according to the inverter or the option card.

Code No.	Inverter	Connector					Connector No.
		Name	Number of Pins		Qty. (each)		
			Plug	Shell Kit			
72626-CA01	CIMR-M5A□□□□ M5A Standard	MDR	36P	36P	1	1CN	
			20P	20P	1	2CN	
			50P	50P	1	6CN	
72626-CA02	CIMR-M5A□□□□ M5A With Encoder Method Orientation Card	MDR	36P	36P	1	1CN	
			20P	20P	2	2CN 8CN	
			50P	50P	1	6CN	
			14P	14P	1	9CN	
72626-CA03	CIMR-M5A□□□□ M5A With Magnetic Sensor Method Orientation Card	MDR	36P	36P	1	1CN	
			20P	20P	1	2CN	
			50P	50P	1	6CN	
			14P	14P	1	10CN	
72626-CN01	CIMR-M5N□□□□ M5N Standard	MDR	36P	36P	1	1CN	
			20P	20P	1	2CN	
		MR	8P		1	4CN	
72626-CN02	CIMR-M5N□□□□ M5N With Encoder Method Orientation Card	MDR	36P	36P	1	1CN	
			20P	20P	2	2CN 8CN	
		MR	8P		1	4CN	
		MDR	14P	14P	1	9CN	
72626-CN03	CIMR-M5N□□□□ M5N With Magnetic Sensor Method Orientation Card	MDR	36P	36P	1	1CN	
			20P	20P	1	2CN	
		MR	8P		1	4CN	
		MDR	14P	14P	1	10CN	

Note : Plugs, shell kits are not provided for the MR connector.

Connector		Model	Maker
1CN (36P)	Plug (Soldered)	10136-3000VE (36P) MDR	Sumitomo 3M Ltd.
	Shell kit (Non-shielded)	10336-52A0-008 (36P) MDR	
2, 8CN (20P)	Plug (Soldered)	10120-3000VE (20P) MDR	
	Shell kit (Non-shielded)	10320-52A0-008 (20P) MDR	
6CN (50P)	Plug (Soldered)	10150-3000VE (50P) MDR	
	Shell kit (Non-shielded)	10350-52A0-008 (50P) MDR	
9,10CN (14P)	Plug (Soldered)	10114-3000VE (14P) MDR	
	Shell kit (Non-shielded)	10314-52A0-008 (14P) MDR	
4CN (8P)		MR-8LFG	Honda Tsushin kogyo Co., Ltd.

BUS BAR/CABLE

Bus bars and cables are required to connect converter with inverter.

Choose appropriate bars/cables according to the converter-inverter combinations.

200V Class

Combination		Parts Code No.
Converter Model CIMR-MR5*	Inverter Model CIMR-M5*	
23P7 25P5 27P5	23P7	72626-W100100
	25P5	
	27P5	
2011 2015 2018 2022 2030	2011	72626-W100150
	2015	
	23P7	72626-W150100
	25P5	
	27P5	
	2011	72626-W150150
	2015	
	2018	
	2022	72626-W150200
	2030	
	2037	72626-W150300
2037	23P7	72626-W300100
	25P5	
	27P5	
	2011	72626-W300150
	2015	
	2018	
	2022	72626-W300200
	2030	
	2037	72626-W300300

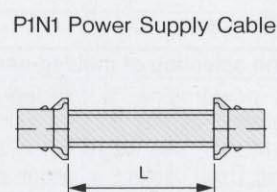
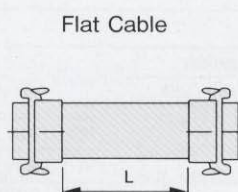
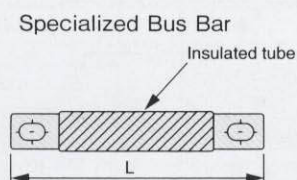
Note : Inverter capacity should not exceed converter capacity.

400V Class

Combination		Parts Code No.
Converter Model CIMR-MR5*	Inverter Model CIMR-M5*	
45P5 47P5	45P5	72626-W100100
	47P5	
4011 4015 4018 4022	4011	72626-W100150
	4015	
	4018	72626-W150100
	4022	
	4030	72626-W150150
	4037	
4030 4037 4045	45P5	72626-W250100
	47P5	
	4011	72626-W250150
	4015	
	4018	
	4022	72626-W250250
	4030	
	4037	
	4045	

* A: For stand alone drive, N: For NC system

Bus Bar/Cable Dimensions



Parts Code No.	Specialized Bus Bar		Flat Cable		P1N1 Power Supply Cable	
	Dimension L inch mm	Qty.	Dimension L inch mm	Qty.	Dimension L inch mm	Qty.
72626-W100100	4.72 120	2	3.94 100	1	5.91 150	1
72626-W100150	6.59 167.5	2	7.09 180	1	5.91 150	1
72626-W150100	5.81 147.5	2	3.94 100	1	9.84 250	1
72626-W150150	7.68 195	2	7.09 180	1	9.84 250	1
72626-W150200	9.65 245	2	9.06 230	1	11.81 300	1
72626-W150300	13.58 345	2	12.99 330	1	13.78 350	1
72626-W250100	5.81 147.5	2	3.94 100	1	11.81 300	1
72626-W250150	7.68 195	2	7.09 180	1	11.81 300	1
72626-W250250	11.6 295	2	11.02 280	1	11.81 300	1
72626-W300100	11.71 297.5	2	3.94 100	1	13.78 350	1
72626-W300150	13.58 345	2	7.09 180	1	13.78 350	1
72626-W300200	15.55 395	2	9.06 230	1	13.78 350	1
72626-W300300	19.49 495	2	12.99 330	1	13.78 350	1

NOTES ON USE

◆ Converter / Inverter

Selection

- The CIMR-M5 inverters are designed for use with machining tools. Do not use for any other purpose.
- When an error occurs, a protective circuit is activated and the inverter output is turned OFF. However, the motor cannot be stopped immediately. Use a mechanical brake and hold the equipment for a fast stop if necessary.
- All VS-656MR5 converters require an AC reactor for power regeneration. Use the correct reactor in accordance with the capacity of the converter being used.

Installation

- Avoid oil mist or dust. Place the inverter in a clean area or house it in a totally-enclosed case so that no contamination enters. To use the totally-enclosed case, select the cooling method and panel dimensions so the inverter ambient temperature will be within the allowable range.
- Do not install the converter and the inverter on flammable material, such as wood.
- Install the inverter on a wall with the longer side in the vertical position.

Operation

- Never connect the AC main-circuit power supply to output terminals U/T1, V/T2, or W/T3. The inverter will be damaged. Double check wiring and sequence before turning the power ON.
- If magnetic contactor (MC) is used on the primary side of the inverter, do not use the MC for starting and stopping the inverter. Otherwise, the inverter life may be reduced.
- After turning power to the inverter off, electric charges in the internal capacitors are retained temporarily. Wait until the charge LED goes off before touching the inside of the inverter.
- Do not subject the inverter or the converter to halogen gases, such as fluorine, chlorine, bromine, and iodine, at any time, even during transportation or installation.

◆ Peripheral Devices

Installation and selection of molded-case circuit breaker

On the input power side, a molded-case circuit breaker (MCCB) to protect converter primary wiring should be installed. For selecting MCCB, see page 18. If a full electromagnetic MCCB is to be used, select a larger capacity because the operating characteristics are altered by harmonic current. A leakage current breaker threshold of 200mA and above, or of inverter (suppressing high frequency) use is recommended.

Input side magnetic contactor

The converter and the inverter can be used without an input side magnetic contactor (MC). An input MC can be used to prevent an automatic restart after recovery from an external power loss during remote control operation. However, do not use the MC frequently for start/stop operation, or it will lead to a reduced reliability. When the digital operator is used, automatic restart after power failure is disabled so that MC starting is impossible. Although the MC can stop the inverter, regeneration braking is disabled and the motor coasts to a stop.

Secondary magnetic contactor

Do not turn the magnetic contactor (MC) between the inverter and the motor on and off while the inverter is running. The inverter cannot operate if the MC is off.

◆ Peripheral Devices (cont'd)

Power-factor improvement (elimination of phase-advance capacitor)

To improve the power-factor, install an AC reactor on the converter power side. (See page 18.) A phase-advance capacitor or a surge suppressor on the power supply for the converter's main circuit will be damaged by the harmonic component from the inverter. Also, the overcurrent caused in the inverter output will trigger the overcurrent protection. To avoid this, do not use capacitors or surge suppressors in the inverter's output.

Radio frequency interference

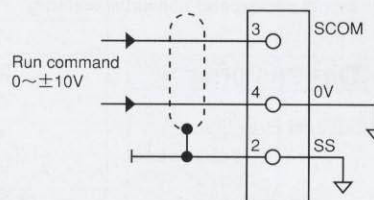
Because the converter and the inverter I/O (main circuit) contains a higher harmonics component, it may emit RFI noise to communication equipment (AM radio, etc.) near the converter and the inverter. Use a noise filter to decrease the noise. Use of a metallic conduit between the inverter and motor and grounding the conduit is also effective. Proper routing of input and output lead is also recommended.

Cable length

The length of a cable between the inverter and a motor should be as short as possible (20m or less) to decrease noise.

If a digital operator is to be isolated from the inverter, use the Yaskawa remote interface and specially designed connection cable (optional).

For remote analog control, connect the signal terminal and the inverter with a control cable that is 20m or shorter. To prevent any interference such as induction from other equipment, route the cable so it is isolated from the power circuits (the main circuit and the relay sequence circuit). If motor speeds can be set not from the digital operator but with external analog signals, use twisted-pair shielded wire as shown in the figure to connect the shielding to the grounding terminal (⊕).



Current leakage control measures

A floating capacitance exists between the inverter power line and other drive lines, and between ground (earth) and the motor. This may carry high-frequency leakage current and affect other equipment. This phenomenon varies with the wiring distance between inverter and motor. Depending on the application, take the appropriate measures to minimize any negative effects. For example, use a ground-fault interrupter resistant to high frequencies, such as one from the Mitsubishi Electric NV series, if malfunctions caused by current leakage to the ground occur in the ground-fault interrupters and the leakage relays.

Noise control measures

Take the following measures to prevent malfunctions caused by noise:

- Enclose each inverter in a metallic cabinet and ensure adequate grounding.
- Separate devices with strong electromagnetic fields from others.
- Attach ferrite cores on control lines.
- Install a noise filter on the input line of the main circuit.
- Install a zero-phase reactor to the input or output line of the main circuit.

VS-626M5 SPEC. SHEET

Fill in the blanks according to your specifications. For items that are not specified, ☐ is selected as YASKAWA standard setting.

User		Machine Tool Name	Machining center, Lathe, ()
Machine Model		Application	Spindle drive/Others ()

1. Machine Spec.

Output Power	Short-term rating	HP (kW)	(-minute, % ED)	Continuous rating	HP (kW)	
Power Transmission Method	1. Gear		Speed control range (min ⁻¹)	High speed (H)	Medium speed (M)	Low speed (L)
	2. Belt		Change gear ratio($\frac{\text{drive shaft}}{\text{motor shaft}}$)			
	3. Direct coupling					
	4. Built-in motor		Rotor inertia kg·m ² ($\frac{GD^2}{4}$)			
Accel/Decel Frequency	times/min		Accel/decel time (0→max) (s)			
Speedmeter	1. Not used 2. Used → Full scale : [] min ⁻¹					
Load Factor Meter	1. Not used 2. Used → Full scale : [] % (at continuous rating)					
Orientation Control Method	1. Not provided (Orientation card not provided)					
	2. Motor encoder method (Orientation card not provided)					
	3. Drive shaft encoder method (ETC62103X provided)					
	4. Magnetic sensor method (ETC62614X provided)					
	5. NC orientation method (Orientation card not provided)					
Solid Tapping	1. Not provided		High speed (H)	Low speed (L)	Tapping size	
	2. Provided	Max. speed (min ⁻¹)			DIA to DIA	
		Accel/decel time (s)				
Speed Command	1. Analog					
	2. Digital	2-1 Binary 2-2 BCD 2-digit 2-3 BCD 3-digit	2-4 Internal speed setting			
	3. Serial communication	3-1 YENET1200				
Input Common Method	1. Sequence signal input	1-1 0V COM	1-2 +24V COM	1-3 External COM		
	2. 12-bit digital signal input	2-1 0V COM	2-2 +24V COM	2-3 External COM		
Remarks						

2. Motor Spec.

Model		Output	Drawing No.
Winding Selection	1. Single-winding type 2. Winding selection type		
Continuous Rating Torque	N·m (Base speed)		
Type	1. Frame motor 2. Built-in motor		
Mounting Method	1-1 Foot-mounted 1-2 Flange-mounted		
Inertia	kg·m ² (GD ² /4)		
Drawing No.			
Remarks			

3. Inverter Spec.

Model	CIMR-M5
Reference Card	1. I/O card (ETC62612X) [M5A] 2. YENET1200 card (ETC62611X-SXXXX) [M5N]
Enclosure	1. Open chassis type (with fan) 2. Heatsink externally cooling type (without fan)
Remarks	

4. Converter Spec.

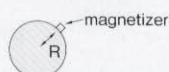
Model	CIMR-MR5
Control Power Supply for Servo	1. Not provided [MR5A] 2. Provided [MR5N]
Enclosure	1. Open chassis type (with fan) 2. Heatsink externally cooling type (without fan)
Remarks	

5. Power Supply, Environment

Power Supply	1. 3-phase 200V (50/60Hz) 220V (50/60Hz) 230V (60Hz) 2. 3-phase 400V (50/60Hz) 440V (50/60Hz) 460V (60Hz) Allowable voltage fluctuation : +10 to -15%
Ambient Temperature, Humidity	Inverter : 32 to 131°F (0 to +55°C) (Intake air temperature : 113°F (45°C) or less) 5 to 95% RH (non-condensing)/Motor : 32 to 104°F (0 to +40°C) 95% RH or less (non-condensing)
Location	Indoor (protected from corrosive gases and dust), complies with standard specifications

6. Remarks

For types provided with magnetic sensor orientation, specify the mounting radius of magnetizer.



R = _____ inches (mm)

Magnetizer ☐ MG-1378BS 2. MG-1444S

Magnetic sensor ☐ FS-1378C 2. FS-200A

VARISPEED-626M5

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YASKAWA ELECTRIC CORPORATION

YASKAWA

In the event that the end user of this product is to be the military and said product is to be employed in any weapons systems or the manufacture thereof, the export will fall under the relevant regulations as stipulated in the Foreign Exchange and Foreign Trade Regulations. Therefore, be sure to follow all procedures and submit all relevant documentation according to any and all rules, regulations and laws that may apply.

Specifications are subject to change without notice
for ongoing product modifications and improvements.

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