

Information required at the time of ordering

Specify the matters below when you make an order.
You can specify the models of PM motors and inverters according to this catalog.

No.	Specification items		Specified matters	Remarks
1	Model designation	PM3T machine (Sheave diameter: 0.4m)		※ Essential: Encircle any one of these.
		PM5T machine (Sheave diameter: 0.5m)		
		Flat PM3T machine (Sheave diameter: 0.4m)		
2	Power supply	200V class		※ Essential: Encircle any one of these.
		400V class		
3	Mechanical data	Rated load capacity (kg)		※ Essential
		Car mass (kg)		※ Essential
		Counterweight mass (kg)		(Rated load capacity /2+Car mass) is the standard.
		Rope mass (kg)		Specify rope weight or lifting length. If nothing is specified, calculation will be based on the assumption that the lifting length is 30 meters.
		Lifting length (m)		
		Presence of compensatory rope		※ Essential
		Roping		※ Essential: 2:1 is the standard.
		Elevator machines are excluded.GD ² of the mechanical system (kg·m ²) converted to Machine shaft.		Specify if calculation is possible.
4	Operating conditions	Car speed (m/min)		※ Essential
		Mechanical efficiency of elevator		0.80 is the standard.
		Acceleration (m/s ²)		The following values are the standard: Car speed: 45m/min 0.5m/s ² Car speed: 60m/min 0.6m/s ² Car speed: 90, 105m/min 0.7m/s ²
		Max. torque during acceleration (kgf·m)		Specify if calculation is possible.
		Rated torque at constant speed (kgf·m)		Specify if calculation is possible.
5	Operational duty	Starting frequency (SPH)		
		Utilization time rate (%ED)		

※ All product and company names mentioned on this paper are the trademarks and/ or service marks of their respective owners.



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Specifications in this catalog are subject to change without notice.

LB103-3101® As of Apr., 2010
2010-4ME(1L)0.5L

MEIDEN



Elevator Drive System

THYFREC VT240EL
THYFREC VT800
Gearless PM Machines

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Low Noise & Low Vibration
State-of-the-Art
Elevator Control Technologies

Empower for new days

Unique Elevator Drive System enhancing design flexibility

Based on its original machine driving technologies, Meidensha Corporation has delivered elevator driving equipment for more than 30 years. At present, Meiden products are widely used in various kinds of elevators, from low speed to high speed, throughout the world. In the business field of elevator drive systems, Meidensha Corporation will continue to be a leading company through further improvements and developments to pursue new products based on the state-of-the-art technologies of the times.

Inverter



THYFREC VT240EL



THYFREC VT800

PM Machine



Flat PM3T machine



PM3T/5T machine

We can meet a variety of technical needs by combining our machines and inverters.

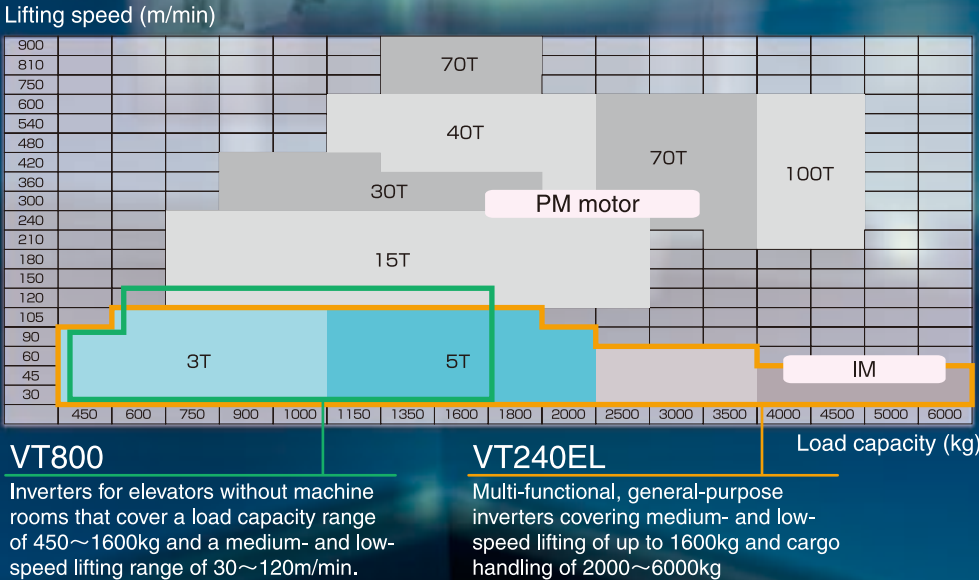


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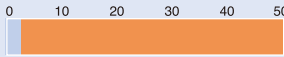
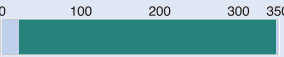
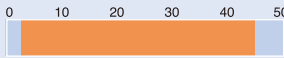
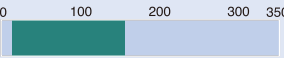

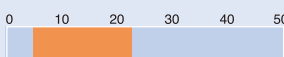
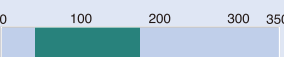
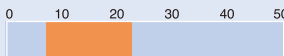

A variety of space-saving and functional machines and inverters are available for you to choose from!

Applicable range



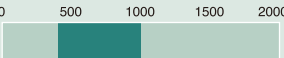


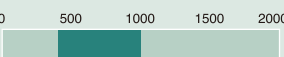


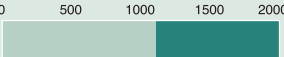


Product List

Inverters

Product name	Features	Applicable motor	Max. acceleration current
THYFREC VT240EL 	<ul style="list-style-type: none">General purposeMagnetic Pole position estimation function ※1Auto-tuning for motor constants ※2Rollback restrictive function ※3Analog setup	200V class 2.2~50kW 	19.8~347.4A 
		400V class 2.2~45kW 	9.9~156.6A 
THYFREC VT800 	<ul style="list-style-type: none">Thin typeMagnetic Pole position estimation function ※1Feasibility of creepless operation by position learning function ※4	200V class 5.6~22kW 	46~176A 
		400V class 8.1~22kW 	27~88A 

Machines

Product name	Features	Lifting speed	Load mass
Flat PM3T machine 	<ul style="list-style-type: none">Low torque ripples and comfortable riding qualitySmall leakage currentLow noise	45~105m/min 	450~1000kg 
PM3T machine 	<ul style="list-style-type: none">Low torque ripples and comfortable riding qualitySmall leakage current	45~105m/min 	450~1000kg 
PM5T machine 	<ul style="list-style-type: none">Low torque ripples and comfortable riding qualitySmall leakage current	45~105m/min 	1150~2000kg 


Detailed descriptions of features

※1
Magnetic pole position estimation function
This function is used to infer the magnetic pole position of the PM motor. Thanks to this function, it is possible to omit encoders with U・V・W signal phases and absolute values. With only A・B・Z signal phases, PM motors can be controlled. In addition, it's not necessary to turn the motor for tuning in inter change of encoder because "phase adjustment of Z phase" is unnecessary.

※2
Auto-tuning for motor constants
Since the auto-tuning function is provided, it is unnecessary to perform troublesome setup actions such as setting motor constants. Even when existing motors are used, optimal tuning can be realized.

※3
Rollback restrictive function
Even though no load sensor is installed or no accurate adjustments have been made, it is possible to restrict rollback actions to support elevator controls. This function improves safety at the time of installation and simplifies adjustment procedures for the load sensor. Note: Installation of a load sensor is indispensable for an elevator system. Note: Please install a load sensor which is necessary for elevator system.

※4
Creepless operation by position learning function
The Inverter learn position such as the floor or limit switch, and running of elevator is managed. The Inverter is connected to a controller with serial option PCB. When a controller sends "operation mode" and "target floor," inverter does "speed control" and "creep-less stopping control" according to the information.



Applicable motors

200V class 2.2~50kW

400V class 2.2~45kW

Max. acceleration current

200V class 19.8~347.4A

400V class 9.9~156.6A

Type description

VT240EL - 4060 AF 2-100 X000

① Shows the type description.
First digit: Shows the input voltage.
2***: 200V class
4***: 400V class
Latter 3 digits: Shows the capacity class.

② Shows the main-circuit options.
AO: Standard
AF: Noise filter incorporated
AR: DCL attached

③ Shows the operation panel selection.
0: Nil
1: LCD type
2: LED type

④ Shows the control PWB option.
1**: Speed detection 1 5**: Speed detection 5
2**: Speed detection 2 8**: Speed detection 8
3**: Speed detection 3
**N: Relay option

⑤ Shows the company's management number.

Standard specifications

200V class

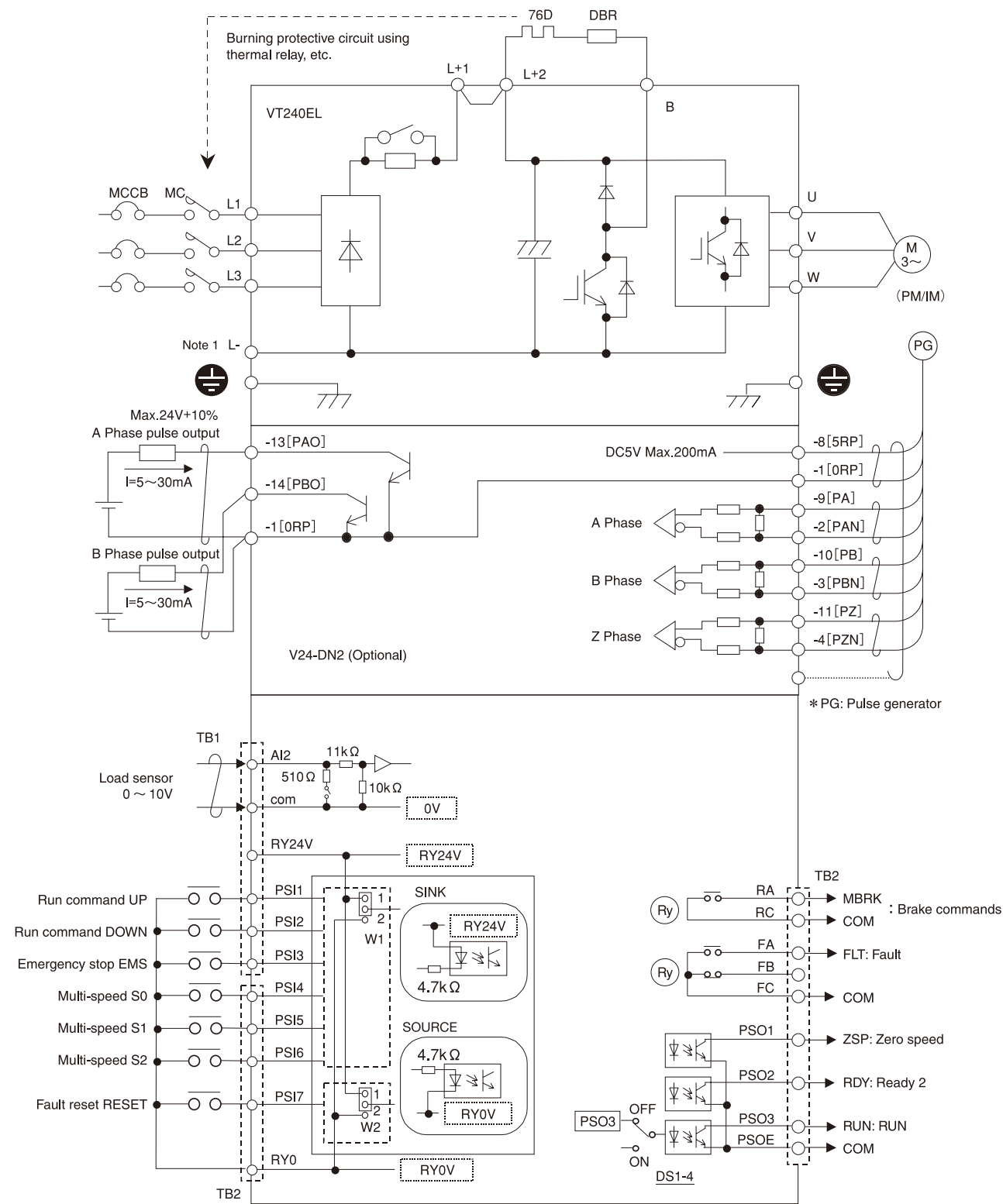
Type (VT240EL-□□□□)		2010	2020	2040	2050	2080	2100	2130	2150	2210	2280	2350	
Rating	Max. continuous rated current (A)	11	16	24	33	46	61	76	88	118	156	193	
	Overload withstand current (A)(180% 5s)	19.8	28.8	43.2	59.4	82.8	109.8	136.8	158.4	212.4	280.8	347.4	
	Max. applicable motor (kW)	2.2	3.7	5.5	7.5	11	15	18.5	22	30	40	50	
	Carrier frequency	Selected from 2 / 4 / 6 / 8 / 10kHz 2010~2100 : 8kHz base, 2130~2350 : 4kHz base											
Power supply	Rated input voltage	200~240V ±10%					200~230V ±10%						
	Frequency	50 or 60Hz ±5%											
Out-put	Rated output voltage	200~240V (Max.)					200~230V (Max.)						
	Output frequency range	0~180Hz(IM) / 0~210Hz(PM motor)											
Main circuit devices (optional)	EMI filter	Can be built-in	External										
	DC reactor	External						Can be mounting					
	Dynamic braking circuit	Built-in (Standard)									External		
	Dynamic braking resistor	External											
Construction	Structure	Wall mounted											
	Enclosure	IP20						IP00					
	Cooling method	Forced air-cooling											
	Approximate mass (kg)	3		5		12		23		30		45	65
	Paint color	Munsell N4.0											
Working environment		Indoors, working ambient temperature: -10~45℃, Relative humidity: 95%RH or below. (no dew condensation) Altitude: 1000m or less., Vibration: 4.9m/s ² or less. Freedom from corrosive or explosive gases, steam, dust, oil mist, cotton, lint, etc.											

400V class

Type (VT240EL-□□□□)		4009	4015	4020	4030	4040	4050	4060	4070	4100	4130	4150	
Rating	Max. continuous rated current (A)	5.5	8.6	13	17	23	31	37	44	60	73	87	
	Overload withstand current (A)(180% 5s)	9.9	15.5	23.4	30.6	41.4	55.8	66.6	79.2	108.0	131.4	156.6	
	Max. applicable motor (kW)	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	
	Carrier frequency	Selected from 2 / 4 / 6 / 8 / 10kHz 4009~4070 : 8kHz base, 4100~4150 : 4kHz base											
Power supply	Rated input voltage	380~480V ±10%											
	Frequency	50 or 60Hz ±5%											
Out-put	Rated output voltage	380~480V (Max.)											
	Output frequency range	0~180Hz(IM) / 0~210Hz(PM motor)											
Main circuit devices (optional)	EMI filter	Can be built-in								External			
	DC reactor	External								Can be mounting			
	Dynamic braking circuit	Built-in (Standard)											
	Dynamic braking resistor	External											
Construction	Structure	Wall mounted											
	Enclosure	IP20								IP00			
	Cooling method	Forced air-cooling											
	Approximate mass (kg)	3		5			12			23		27	
	Paint color	Munsell N4.0											
Working environment		Indoors, working ambient temperature: -10~45℃, Relative humidity: 95%RH or below. (no dew condensation) Altitude: 1000m or less., Vibration: 4.9m/s ² or less. Freedom from corrosive or explosive gases, steam, dust, oil mist, cotton, lint, etc.											

Example of connections

An example of the multi-step speed operation system using the incremental encoder (A,B,Z.signals) is shown below.



Notes: 1. L- terminal is available only on type : 2010-2050, 2280, 2350, 4009-4040

External dimensions

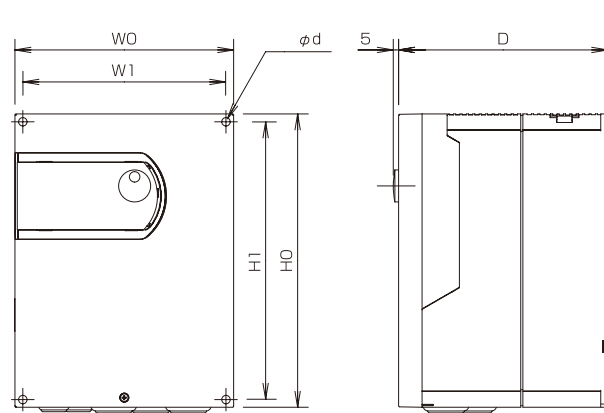


Fig. 1

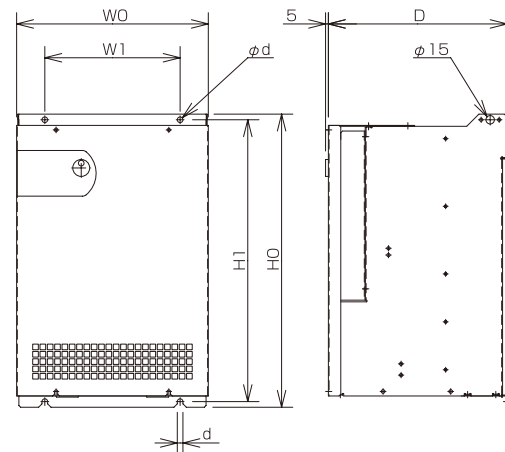


Fig. 2

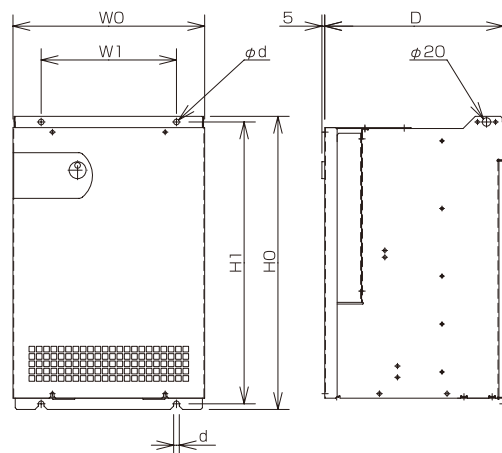


Fig. 3

Application table

Type		Dimension (mm)						Main circuit terminal	Mass (kg)	Fig.
200V class	400V class	W0	W1	H0	H1	D	ϕ d			
2010 2020	4009 4015	155	140	250	235	180	6	M4	3	Fig. 1
——	4020 4030	205	190	275	260	196	7	M4	5	
2040 2050	4040							M5		
——	4050 4060	260	240	350	330	298	7	M5	12	
2080	4070							M6		
2100	——							M8		
2130 2150	4100 4130	300	200	470	450	317	10	M8	23	
——	4150	300	200	520	500			M8	27	
2210	——	340	240					M10	30	
2280	——	435	300	615	595	350	10	M10	45	Fig. 3
2350	——	500	400	710	684				65	

Option PCB

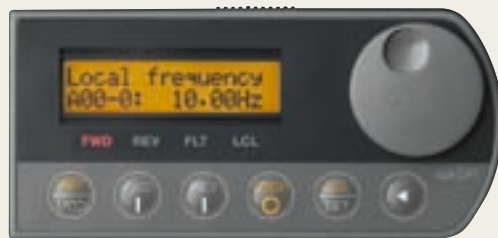
This is a built-in type option mounted on the VT240EL control PCB.
These PCB options are connected to the connector on the VT240EL control PCB, and can be easily mounted even after purchasing the VT240EL.

Name	Type	Functions available
Speed detection 1 (Complimentary compatible)	V24-DN1 N62P30609=1-01	This is a speed detection PCB for the complimentary output type encoder. Response frequency: change between 60±10kHz and 20kHz
Speed detection 2 (Line driver compatible)	V24-DN2 N62P30610=1-01	This is a speed detection PCB for the line driver output type encoder. Response frequency: 250kHz (Signals: Phases A, B, Z; serial)
Speed detection 3	V24-DN3 N62P30611=1-01	This is a speed detection PCB for the systems of Phases U, V, and W. (Applicable to the line driver output type encoder) Response frequency: 250kHz (Signals: Phases A, B, Z, U, V, W)
Speed detection 5 (SIN/COS compatible)	V24-DN5 N62P30676=1-01	This is a speed detection PCB compatible with Heidenhain ERN 1387. or TAMAGAWA TS6063N155. Use this for high-accuracy roll back restrictive. (Signals: 1Vp-p 2phase, 2-set sinewave +Z-phase pulse)
Speed detection 8 (SIN/COS compatible)	V24-DN8 N62P30684=1-01 <Dsub15>	
Relay interface	V24-RY0 N62P30612=1-01	This is used to expand the contact input/output points. Relay input: 4 points (PSI 8~11) 1C contact output: 4 points (PSO 4~7)

Operation panel

For the operation panel of VT240EL, two types of panels are available;
LCD panel (V24-OP1) and LED panel (V24-OP2)

LCD panel (V24-OP1)



LED panel (V24-OP2)



Main circuit options

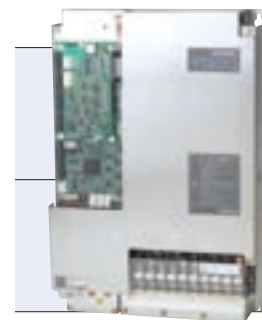
The following items are available as the main-circuit options:

- AC reactor (ACL)
- DC reactor (DCL)
- EMC filter
- DB unit

Inverters

THYFREC VT800

THYFREC
VT800



Applicable motors
200V class 5.6~22kW
400V class 8.1~22kW

Max. acceleration current
200V class 46~176A
400V class 27~88A

Type description

VT800 - 204 N - L2 -0

① Shows the unit type of input voltage and maximum current.

② Shows the types of control PWB options.
N: No options
P: Parallel input interface
S: Serial communication interface

③ Shows the types of DC reactor (DCL) built-in options.
L1: 2.0mH L11: 8.0mH
L2: 1.3mH L11: 5.2mH
L3: 0.8mH L11: 3.2mH
00: No DCL (for separate options)

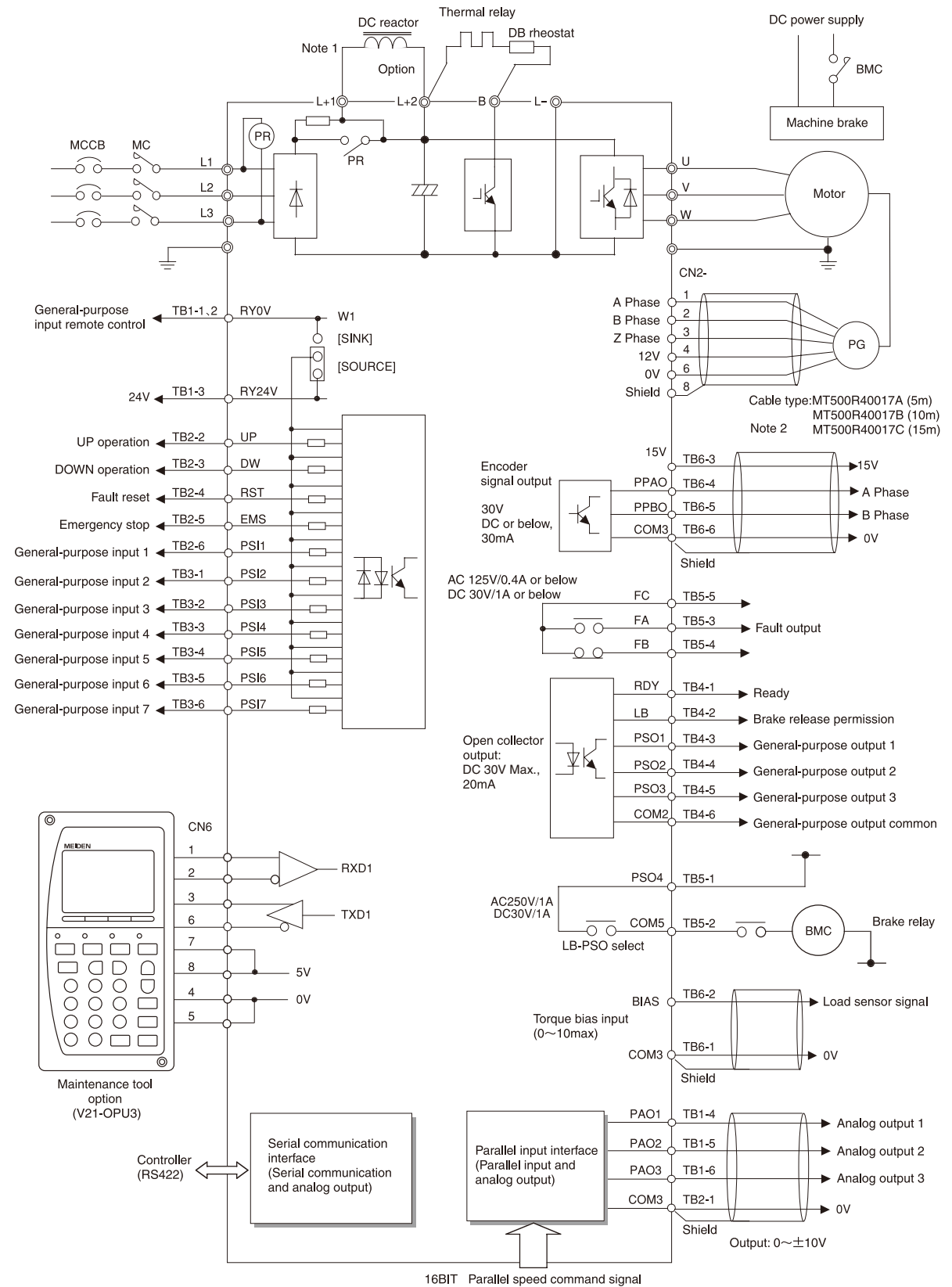
*For the separate DCL options, L4:0.6mH, L5:0.3mH, L14:2.4mH, and L15:1.2mH are available.

Standard specifications

Item			Specifications								
Class			200V class				400V class				
Type (VT800-□□□□)			204	206	208	210	218	403	404	405	409
Motor	Max. applicable motor		5.6	6.9	9.7	11.0	22.0	8.1	9.7	11.0	22.0
	Rated torque (%)		100% (Rated speed)								
	Accelerating torque (%)		180% (Less than 80% of the rated speed)								
Ratings	Max. continuous rated current (A)		26	34	48	63	94	15	23	32	47
	Max.accelerating current (A)	Note 1	46	61	87	113	176	27	41	57	88
	Carrier frequency	Note 2	7～12kHz								
Power supply	Braking method		Note 3 Resistance discharge braking								
	Rated input voltage/frequency		3-phase 200V ±10% 50Hz ±5% 3-phase 200/220V±10% 60Hz ±5%					3-phase 380/400/440V ±10% 50 or 60Hz ±5%			
	Construction	Cooling method		Note 4 Forced air-cooling							
Enclosure		IP00									
Paint		Note 5 None									
Dimensions W×H×D (mm)		300×450×90		340×500×90		400× 690× 140	300× 450× 90	340×500×90		400× 690× 140	
Approximate mass (kg)		11		15		27	11	15		27	
Environment	Installation place		Note 6 Indoors, wall mounted								
	Altitude		1000m or less.								
	Unit ambient temperature and humidity		－10～45℃ 95% RH or below (No dew condensation)								
	Average ambient temperature		25℃								
	Storage temperature and relative humidity		－25～70℃ 20～90% RH (No dew condensation)								
Options	Atmospheric conditions		Freedom from corrosive or explosive gases, steam, dust, oil mist, cotton, lint, direct sunlight, etc.								
	DC reactor		Can be built-in		External			Can be built-in		External	
	Optional PCB	Parallel input interface	Data format:Unsigned 16-bit binary data. * Scaling is set up based on the rated speed of the elevator. Synchronizing method: Asynchronous method followin 1ms sampling (Data is updated with eurent data when data matches three times in succession.) Data width: 16-bit batch Circuit voltage: 24V								
		Serial communication interface	Used for serial transmission connection with the controller. In serial communication operation, there are three kinds of modes: speed command mode, multi-speed command mode, and position control mode. In position control mode, position learning operation and running control are possible with the aid of the position control function. Transmission system: RS422 Transmission speed: 38400bps								
	Maintenance tool		LCD display type								
	Maintenance tool extension cord		LAN cable (straight)								
	PC loader switch		Adjustment supporting software								

Notes: 1. Shows the current to be carried when the carrier frequency is 10kHz.
2. If the inverter is used at 10kHz or above, current derating is needed.
3. The damping circuit and the braking resistor are optional.
4. Spacing of at least 50mm should be provided to the inlet and exhaust ports for cooling air.
5. Hot-dip galvanized steel sheets are used. Stainless steel plates are used for the front panel. (For #218 and #409, however, only hot-dip galvanized steel sheets are used.)
6. The inverter shall be installed in the elevator controller panel.

Example of connections



Notes: 1. For the unit types of #208, 210, 218 and #404, 405, 409, the DCL is available in separately installed options.
2. For encoder cables, use specific shielded wires exclusively furnished by the company.

Inverters

THYFREC VT800

External dimensions

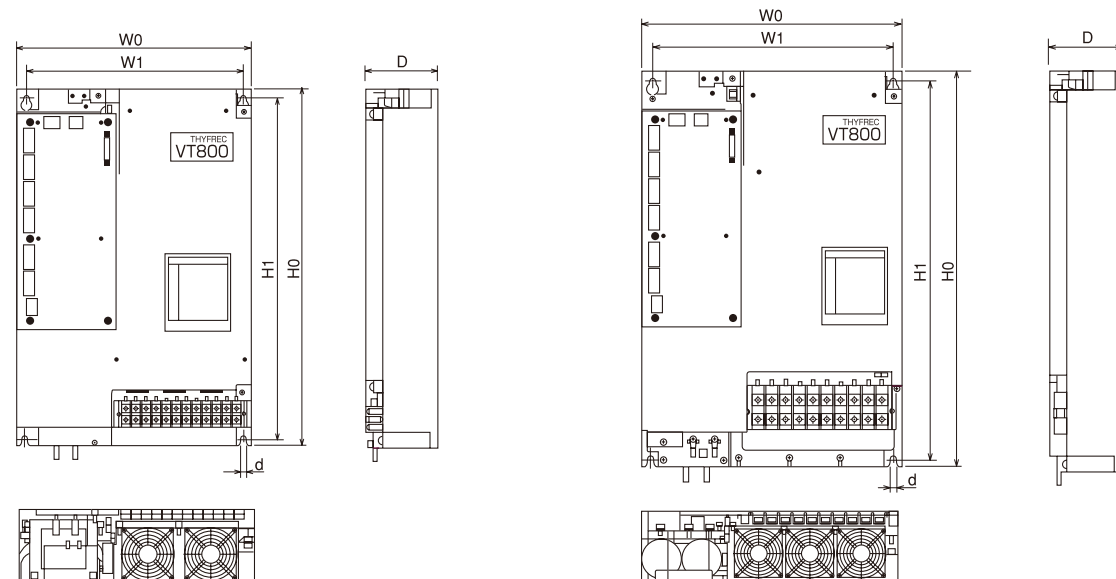


Fig. 1

Fig. 2

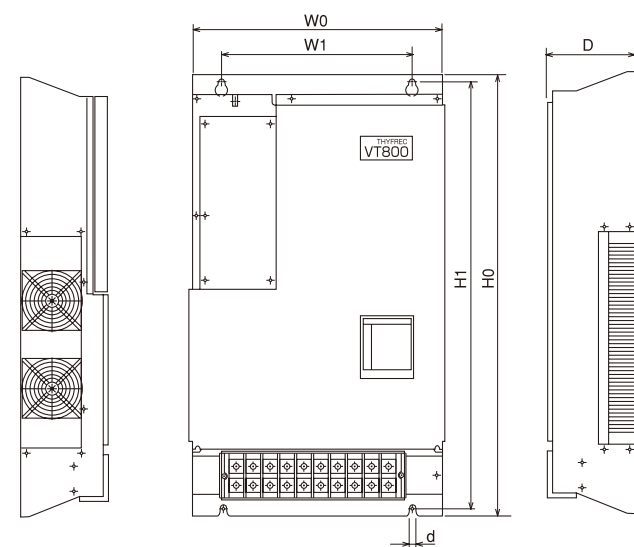


Fig. 3

Application table

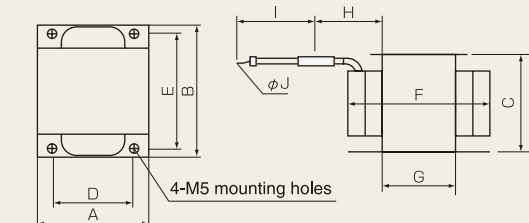
Type		Dimension (mm)						Main circuit terminal	Approx. mass (kg)	Fig.
200V class	400V class	W0	W1	H0	H1	D	d			
204	403	300	280	450	430	90	7	M4	11 ^{Note 1}	Fig. 1
206	403	300	280	450	430	90	7	M4	11 ^{Note 1}	Fig. 1
208	—	340	320	500	480	90	7	M5	15	Fig. 2
210	—							M5		
—	404	400	300	690	670	140	10	M8	27	Fig. 3
—	405							M8		
218	—	400	300	690	670	140	10	M8	27	Fig. 3
—	409							M5		

Note: 1. The mass in the table above applies only when no built-in type DC reactor (DCL) is included.

DC reactor (DCL) options

The DC reactors are effective in the improvement of power factor and the suppression of harmonics. According to the units, there are two types, the built-in type and the external type.

VT800-	Type	Type description	Inductance	Dimensions (mm)										Mass (kg)
				A	B	C	D	E	F	G	H	I	J	
204	Built-in	VT800-204□-L2-0	1.3mH	—	—	—	—	—	—	—	—	—	—	3.5
206		VT800-206□-L3-0	0.8mH	—	—	—	—	—	—	—	—	—	—	4.0
208	External	N71P48936-4	0.6mH	115	128	95	76	113	128	62	50	310	5.3	6.0
210		N71P49140-5	0.3mH	114	115	102	75	95	134	65	65	500	8.4	6.0
218	Built-in	VT800-403□-L13-0	3.2mH	—	—	—	—	—	—	—	—	—	—	4.0
403		VT800-403□-L13-0	3.2mH	—	—	—	—	—	—	—	—	—	—	4.0
404	External	N71P48936-14	2.4mH	115	128	95	76	113	128	62	50	310	4.3	6.0
405		N71P48936-14	2.4mH	115	128	95	76	113	128	62	50	310	4.3	6.0
409	External	N71P49140-15	1.2mH	114	115	102	75	95	134	65	65	500	5.3	6.0
409		N71P49140-15	1.2mH	114	115	102	75	95	134	65	65	500	5.3	6.0



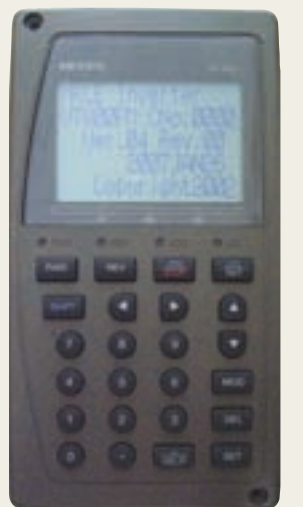
LCD maintenance tool (Type: V21-OPU3)

(Approximate dimensions: Width 88, height 170, depth 15(mm))

A large graphic LCD can easily perform various kinds of maintenance operation.

- Run/input signal monitor
- Fault record monitor //
- Various parameter change
- Parameter backup and installation

This maintenance tool is connected with the connector on the control PCB of VT800 unit through a straight-connection type UTP cable. This tool is used by pulling it out of the unit. Connections can be made without any problem even when the VT800 main body remains powered.

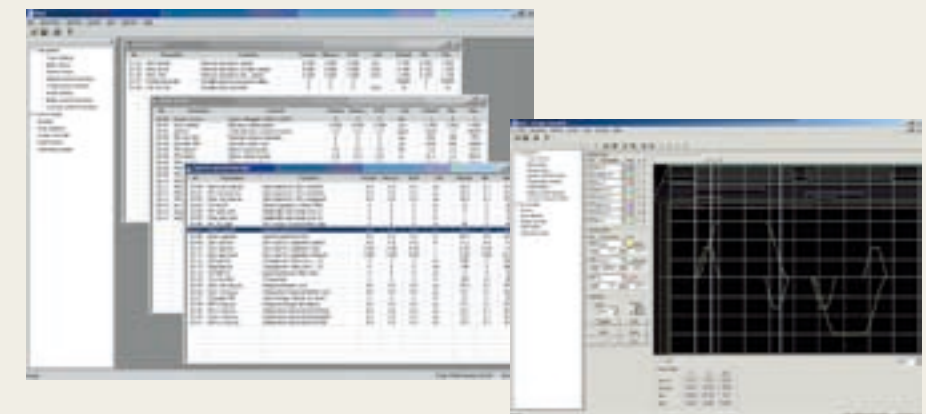


Adjustment supporting software (Windows2000/XP Software)

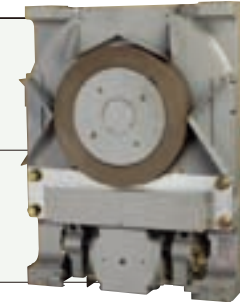
This PC software can offer functions for ON-line/OFF-line monitoring and fault indications for parameter setting, reference, and operation.

In the monitoring function, it is possible to give 3 types of numerical displays in one window and 8 types of graphic displays in bit indications.

The PC and the VT800 are connected through a connector on the control PCB and a UTP cable of the straight connection type.



Flat PM3T machine



Load capacity
450~1000kg

Lifting speed
45~105m/min

Type
description

KTD3G1 - ZFPSBD - 30 - C

3T
Series

Symbol	Load capacity (kg)
1	450~600
2	750~1000

30-minute rating

Standard specifications

Lifting speed (m/min)	Rated rotational speed (min ⁻¹) <small>Note 1</small>	KTD3G1-ZFPSBD		KTD3G2-ZFPSBD		
		Output (kW)				
105	167	4.9	6.5	8.1	9.7	11.0
90	143	4.2	5.6	6.9	8.3	9.2
60	95	2.8	3.7	4.6	5.6	6.2
45	72	2.1	2.8	3.5	4.2	4.6
Load capacity (kg)		450	600	750	900	1000
Sheave diameter (mm) <small>Note 2</small>		400				
Roping		2 : 1				
System		Permanent magnet type synchronous motor				
No. of poles		32 poles				
Time rating		30 minutes				
Insulation		Class F				
Rotatuinal direction		Forward rotation in counterclockwise direction as seen from sheave mounting side				
Construction	Protection system	Totally-enclosed drip-proof type (Equivalent to IP42)				
	Cooling system	Self-cooled				
	Mounting system	Wall mounting				
Environment	Ambient temperature	-10~+40℃				
	Relative humidity	90% RH or below (No dew condensation)				
	Installation place	Indoors				
	Altitude	1000m or below				
	Atmospheric conditions	Freedom from corrosive or flammable gases				
Brake		No-excitation action type DC brake				
Encoder		Complementary output (8192P/R) Phase A,B,Z				
Color of coating		Munsell 5B5/0.5				
Accessories		Shaft end key, thermo-guard, encoder cable (Standard 10m)				

Notes: 1. Rated revolving speed is applicable when the sheave diameter is 400mm.
2. The sheaves are not included in Meiden supplies.

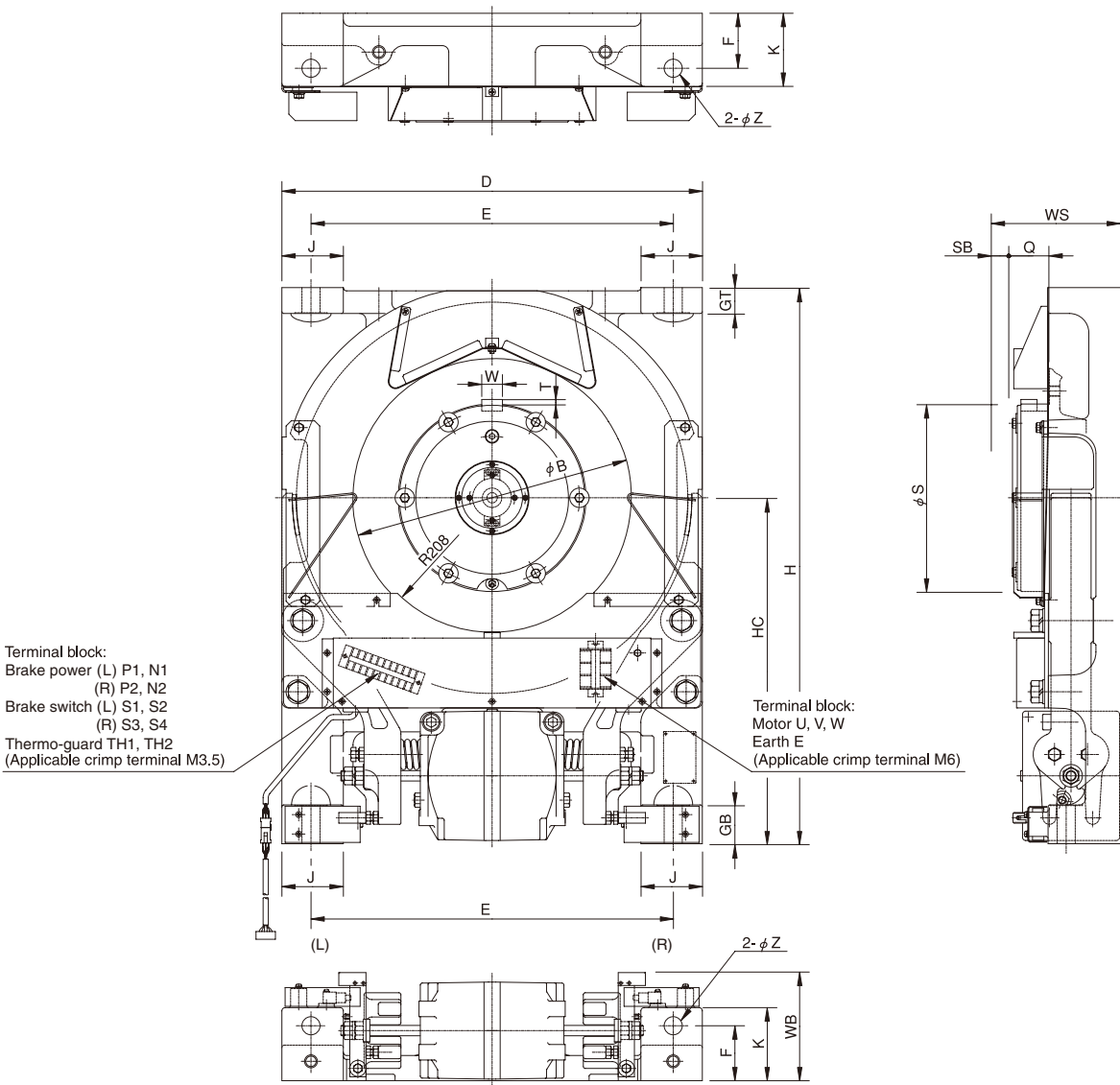
Applicable inverters

Lifting speed (m/min)	VT240EL				
	<200V class at upper stage; 400V class at lower stage>				
105	2050	2080	2100	2100	2100
	4040	4040	4050	4050	4050
90	2050	2080	2100	2100	2100
	4040	4040	4050	4050	4050
60	2040	2040	2050	2050	2080
	4020	4020	4030	4030	4040
45	2040	2040	2050	2050	2080
	4020	4020	4030	4030	4040
Load capacity (kg)	450	600	750	900	1000

Lifting speed (m/min)	VT800				
	<200V class at upper stage; 400V class at lower stage>				
105	206	208	208	210	210
	404	404	405	405	405
90	206	208	208	210	210
	404	404	405	405	405
60	204	204	206	206	208
	403	403	403	404	404
45	204	204	206	206	208
	403	403	403	404	404
Load capacity (kg)	450	600	750	900	1000

Note: The specified capacity is applicable when an applicable inverter is used with the standard specifications and mechanical efficiency. Please inquire when selecting the capacity.

External dimensions



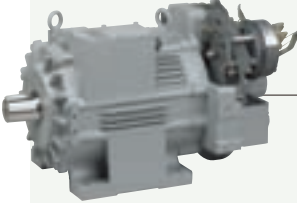
Load capacity (kg)	DC magnetic brake specifications (One side)		
	Coil resistance (Ω) at 20°C	Voltage (V)	
		During attraction (1 second)	During holding
450, 600	30.7±2	DC100V±10%	DC45V±10%
750, 900, 1000	36.3±2		

Load capacity (kg)	Motor dimensions (mm)													Shaft dimensions (mm)					Approx. mass (kg)
	B	D	E	F	GB	GT	H	HC	J	K	WB	WS	Z	Q	S	SB	T	W	
450	430	650	560	85	60	40	860	535	95	113	168	168	28	44	290	13	7	32	310
600																			
750																			
900	430	650	560	110	60	40	910	585	95	143	212	214	35	60	290	13	7	32	420
1000																			

Notes: 1. Sizes are subject to change. Please inquire in the case of designing usage.
2. The shaft end keys and keyways shall conform to the parallel keys and keyways of JISB1301 (Sunk Keys and Their Corresponding Keyways).

Machines

PM3T machine



Load capacity

450~1000kg

Lifting speed

45~105m/min

Type description	ZR3K1 - ZFPS - 30 - C			
3T Series	Symbol	Load capacity (kg)	Brake disk (mm)	30-minute rating
	1	450~750	390	
	2	900~1000	450	

Standard specifications

Lifting speed (m/min)	Rated revolving speed (min ⁻¹) Note 1	ZR3K1-ZFPS			ZR3K2-ZFPS	
		Output (kW)				
105	167	4.9	6.5	8.1	9.7	11.0
90	143	4.2	5.6	6.9	8.3	9.2
60	95	2.8	3.7	4.6	5.6	6.2
45	72	2.1	2.8	3.5	4.2	4.6
Load capacity (kg)		450	600	750	900	1000
Sheave diameter (mm) Note 2		400				
Roping		2 : 1				
System		Permanent magnet type synchronous motor				
No. of poles		16 poles				
Time rating		30 minutes				
Insulation		Class F				
Rotational direction		Forward rotation in counterclockwise direction as seen from sheave mounting side				
Construction	Protection system	Dust-proof, jet-proof type (Equivalent to IP55) (Except encoder and brake blocks)				
	Cooling system	Self-cooled				
	Mounting system	Leg mounting				
Environment	Ambient temperature	-20~+40°C				
	Relative humidity	90% RH or below (No dew condensation)				
	Installation place	Indoors				
	Altitude	1000m or below				
	Atmospheric conditions	Freedom from corrosive or flammable gases				
Encoder		Complementary output (8192P/R) Phase A,B,Z				
Color of coating		Munsell 5B5/0.5				
Accessories		Shaft end key, thermo-guard, encoder cable (Standard 10m)				

Notes: 1. Rated revolving speed is applicable when the sheave diameter is 400mm.
2. The sheaves are not included in Meiden supplies.

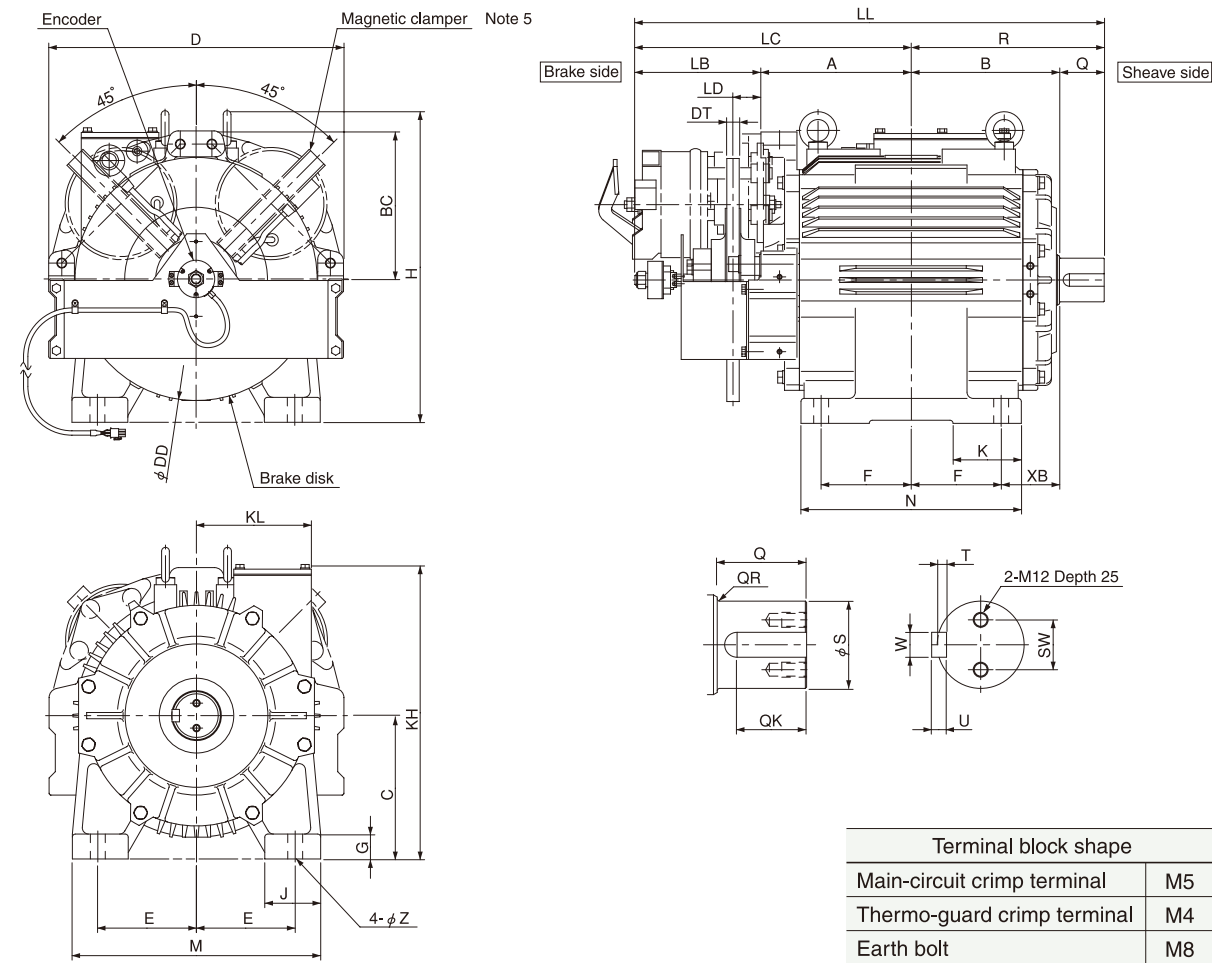
Applicable inverters

Lifting speed (m/min)	VT240EL				
	<200V class at upper stage; 400V class at lower stage>				
105	2050	2080	2080	2100	2100
	4040	4040	4040	4050	4050
90	2050	2080	2080	2100	2100
	4040	4040	4040	4050	4050
60	2040	2040	2050	2050	2080
	4020	4020	4030	4030	4040
45	2040	2040	2050	2050	2080
	4020	4020	4030	4030	4040
Load capacity (kg)	450	600	750	900	1000

Note: The specified capacity is applicable when an applicable inverter is used with the standard specifications and mechanical efficiency. Please inquire when selecting the capacity.

Lifting speed (m/min)	VT800				
	<200V class at upper stage; 400V class at lower stage>				
105	206	208	208	210	210
	404	404	405	405	405
90	206	208	208	210	210
	404	404	405	405	405
60	204	204	206	206	208
	403	403	403	404	404
45	204	204	206	206	208
	403	403	403	404	404
Load capacity (kg)	450	600	750	900	1000

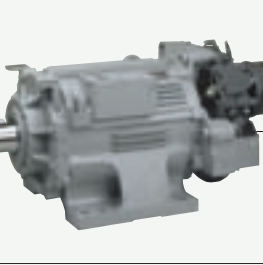
External dimensions



Load capacity (kg)	Motor dimensions (mm)																
	A	B	C	D	E	F	G	H	J	K	LB	LC	LD	LL	M	N	R
450																	
600	242	239	230	475	159	145	40	500	90	110	203	445	45	756	400	355	311
750																	
900	282	239	230	515	159	145	40	500	90	110	203	485	45	796	400	355	311
1000																	

Load capacity (kg)	Motor dimensions (mm)							Shaft dimensions (mm)								Approx. mass (kg)
	BC	KH	KL	Z	XB	DD	DT	Q	S	T	U	W	SW	QK	QR	
450																330
600	237.5	473	185	24	94	390	20	72	70	7.5	12	20	40	56	2	
750																360
900	257.5	473	185	24	94	450	20	72	70	7.5	12	20	40	56	2	410
1000																

Notes: 1. Sizes are subject to change. Please inquire in the case of designing usage.
2. Tolerance for Size S shall be of m6 according to JISB0401 (System of Limits and Fits).
3. Tolerance for Size C shall be 0/-0.5.
4. The shaft end keys and keyways shall conform to the parallel keys and keyways of JISB1301 (Keys and Their Corresponding Keyways).
5. The magnetic clamber and its mounting molts plus the protective cover and its mounting molts are not included in Meiden supplies.
6. The protective cover for encoder, the terminal stand and terminal box for brake are optional.



Load capacity

1150~2000kg

Lifting speed

45~105m/min

Type description

ZQ5K1 - ZFPS - 30 - C

5T Series

30-minute rating

Standard specifications

Lifting speed (m/min)	Rated revolving speed (min ⁻¹) <small>Note 1</small>	ZQ5K1-ZFPS				
		Output (kW)				
105	134	13.0	15.0	18.0	—	—
90	115	11.0	13.0	15.0	—	—
60	76	7.1	8.3	9.9	11.0	13.0
45	57	5.3	6.2	7.4	8.3	9.2
Load capacity (kg)		1150	1350	1600	1800	2000
Sheave diameter (mm) <small>Note 2</small>		500				
Roping		2 : 1				
System		Permanent magnet type synchronous motor				
No. of poles		16 poles				
Time rating		30 minutes				
Insulation		Class F				
Rotational direction		Forward rotation in counterclockwise direction as seen from sheave mounting side				
Construction	Protection system	Dust-proof, watertight type (Equivalent to IP57) (Except encoder and brake blocks)				
	Cooling system	Self-cooled				
	Mounting system	Leg mounting				
Environment	Ambient temperature	-20~+40°C				
	Relative humidity	90% RH or below (No dew condensation)				
	Installation place	Indoors				
	Altitude	1000m or below				
	Atmospheric conditions	Freedom from corrosive or flammable gases				
Encoder		Complementary output (8192P/R) Phase A,B,Z				
Color of coating		Munsell 5B5/0.5				
Accessories		Shaft end key, thermo-guard, encoder cable (Standard 10m)				

Notes: 1. Rated revolving speed is applicable when the sheave diameter is 500mm.
2. The sheaves are not included in Meiden supplies.

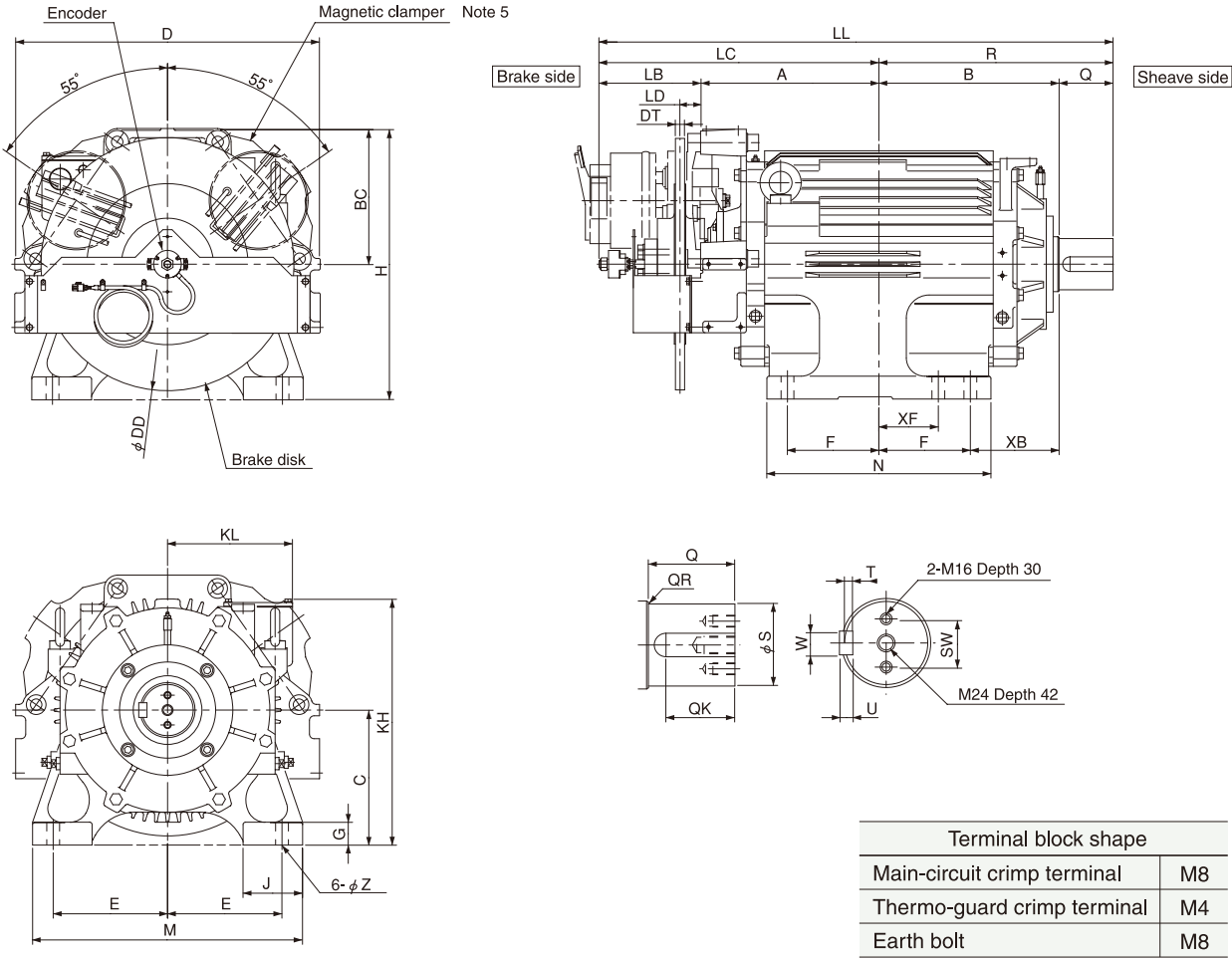
Applicable inverters

Lifting speed (m/min)	VT240EL				
	<200V class at upper stage; 400V class at lower stage>				
105	2130	2130	2150	—	—
	4060	4060	4070	—	—
90	2130	2130	2150	—	—
	4060	4060	4070	—	—
60	2080	2080	2100	2100	2130
	4040	4040	4050	4050	4060
45	2080	2080	2100	2100	2130
	4040	4040	4050	4050	4060
Load capacity (kg)	1150	1350	1600	1800	2000

Note: The specified capacity is applicable when an applicable inverter is used with the standard specifications and mechanical efficiency. Please inquire when selecting the capacity.

Lifting speed (m/min)	VT800				
	<200V class at upper stage; 400V class at lower stage>				
105	218	218	218	—	—
	409	409	409	—	—
90	218	218	218	—	—
	409	409	409	—	—
60	208	208	210	210	218
	404	404	405	405	409
45	208	208	210	210	218
	404	404	405	405	409
Load capacity (kg)	1150	1350	1600	1800	2000

External dimensions



Load capacity (kg)	Motor dimensions (mm)															
	A	B	C	D	E	F	G	H	J	LB	LC	LD	LL	M	N	R
1150																
1350																
1600	390	394	295	664	250	200	50	590	130	222	612	45	1124	590	490	512
1800																
2000																

Load capacity (kg)	Motor dimensions (mm)								Shaft dimensions (mm)								Approx. mass (kg)
	BC	KH	KL	Z	XB	XF	DD	DT	Q	S	T	U	W	SW	QK	QR	
1150																	790
1350																	
1600	295	538	273	28	194	130	550	20	118	112	11	18	32	65	94	1	840
1800																	
2000																	

Notes: 1. Sizes are subject to change. Please inquire in the case of designing usage.
2. Tolerance for Size S shall be of m6 according to JISB0401 (System of Limits and Fits).
3. Tolerance for Size C shall be 0/-0.5.
4. The shaft end keys and keyways shall conform to the parallel keys and keyways of JISB1301 (Sunk Keys and Their Corresponding Keyways).
5. The magnetic clamber and its mounting molts plus the protective cover and its mounting molts are not included in Meiden supplies.
6. The protective cover for encoder, the terminal stand and terminal box for brake are optional.