

VH_{Type}

Right Angle Shaft

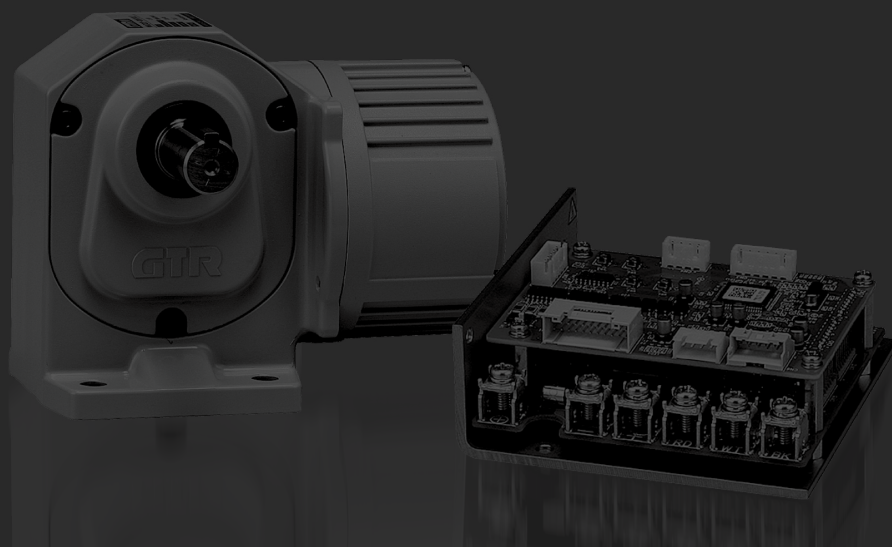
Model and Type Codes
Standard Model Lineup

BATTERY POWERED GEARMOTORS

P.604 1. Battery Powered Gearmotors

1-1. Performance Tables

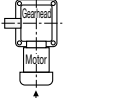
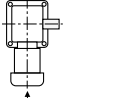
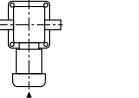
1-2. Drawings



Model and Type Codes

VH Type Battery Powered Gearmotors

Mounting Type	Brake Type	Frame Size	Shaft Arrangement	Reduction Ratio	Common Code	Motor Power	Supply Voltage	Option
VHL	C	18	R	- 30	N	100	L1A	
VHL	D	32	L	- 100	N	400	L4A	X
①	②	③	④	⑤	⑥	⑦	⑧	⑨

① Mounting Type	VHL : Right Angle Shaft Foot Mount		
② Brake Type	C : No Brake D : Brakemotor		
③ Frame Size and Output Shaft Diameter	Output Shaft Diameter		
④ Shaft Arrangement			
	L	R	T
⑤ Reduction Ratio	5:1/5 to 240:1/240		
⑥ Common Code	N : Common Code		
⑦ Motor Power	100 : 0.1 kW		
	200 : 0.2 kW		
	400 : 0.4 kW		
⑧ Supply Voltage (Note 1)	L1A : 12 VDC		
	L2A : 24 VDC		
	L4A : 48 VDC		
⑨ Option	Blank : Standard Specification		
	X : Special Specification Code		

Note 1: 48 VDC is CCC-certified Product.

Vc/APG Type
Parallel Shaft

VH Type
Right Angle Shaft

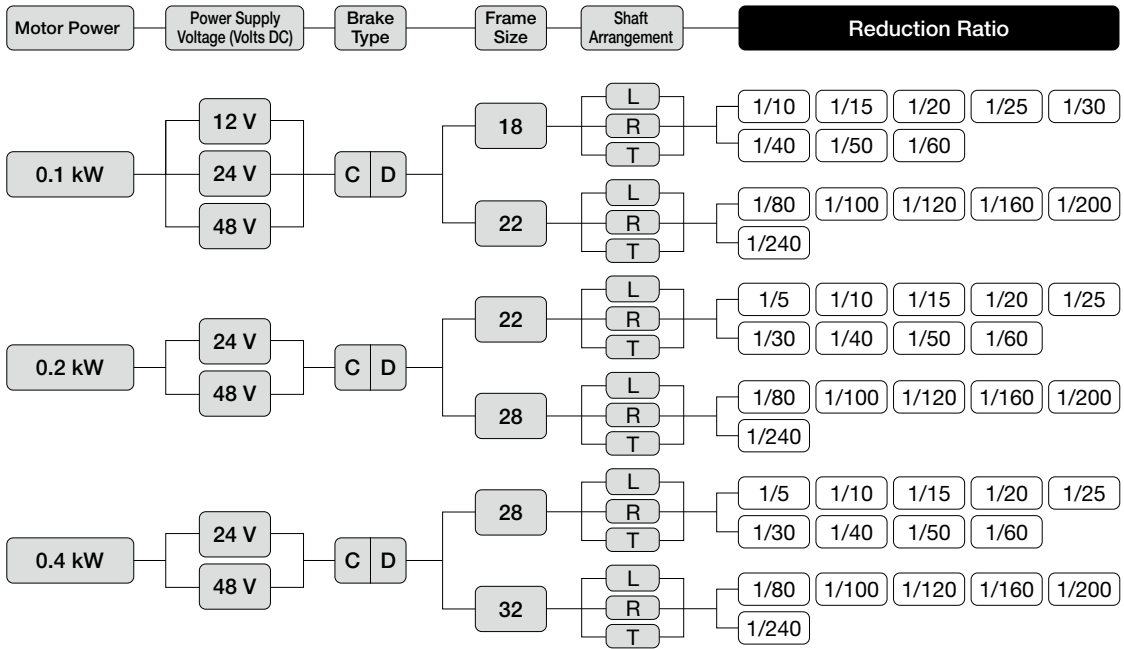
VF3S/VF3F Type
Concentric Right Angle Hollow Bore/Concentric Right Angle Shaft
F3S Type/Right Angle Shaft

Control Unit Specification

Technical Documentation

Standard Model Lineup

VH Type Battery Powered Gearmotors



VG/PG Type
Parallel Shaft

VH Type
Right Angle Shaft

VF3S/VF3F Type
Concentric Right-Angle Hollow Bore Concentric Right-Angle Shaft
F3S Type Right-Angle Shaft

Control Unit Specification


Technical Documentation

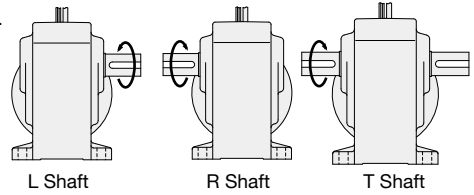
1. Battery Powered Gearmotors

1-1. Performance Tables

VH Type Battery Powered Gearmotors

[Notes]

-  in the performance table indicates that the L shaft rotates clockwise with a drive CW command and the R and T shafts rotate counterclockwise when viewed from the output shaft side under the conditions shown in the figure on the right. To change the rotational direction, switch the CW and CCW commands.
- The performance table shows two reduction ratios: reduction ratio and actual reduction ratio.
- The key dimensions and tolerances for output shafts conform to the normal type specified in JIS B 1301-1996 plain form.
- Allowable output shaft O.H.L. is the value at the middle of the output shaft. For other cases, see page 667.
- The output shaft speed is the variable speed range shown on page 637 calculated from the actual reduction ratio.



VG/AG Type
Parallel Shaft

VH Type
Right Angle Shaft

VF3S/VF3F Type
Concentric Right Angle Hollow Bore Concentric Right Angle Shaft
F3S Type Right Angle Shaft

Control Unit Specification

Technical Documentation

Series	Motor Power	Power Supply V	Frame Size	Nominal Reduction Ratio	Actual Reduction Ratio	Output Shaft Speed	Allowable Output Shaft Torque (Continuous)	Allowable Output Shaft O.H.L.	Drawings	
						r/min	N·m	N		
V	0.1 kW	12 VDC 24 VDC 48 VDC	18	1/10	4/41	9.8 to 292	2.94	390	P.605	
				1/15	8/123	6.6 to 195	4.80	540		
				1/20	2/41	4.9 to 146	6.57	690		
				1/25	8/205	4.0 to 117	8.53	780		
				1/30	4/123	3.3 to 97	9.80	880		
				1/40	1/41	2.5 to 73	12.7	980		
			22	1/50	4/205	2.0 to 58	16.7	1080	P.606	
				1/60	2/123	1.7 to 48	19.6	1080		
				1/80	1/80	1.3 to 37	25.5	1570		
				1/100	1/100	1.0 to 30	32.3	1570		
				1/120	1/120	0.9 to 25	39.2	1570		
				1/160	1/160	0.7 to 18	51.9	1570		
	0.2 kW	24 VDC 48 VDC	22	1/200	1/200	0.5 to 15	64.7	1570	P.606	
				1/240	1/236	0.5 to 12	77.4	1570		
				1/5	1/5	20.0 to 600	2.45	590		P.606
				1/10	1/10	10.0 to 300	5.49	930		
				1/15	1/15	6.7 to 200	8.82	1030		
				1/20	1/20	5.0 to 150	11.8	1180		
			1/25	1/25	4.0 to 120	14.7	1270			
			1/30	1/30	3.4 to 100	18.6	1370			
			28	1/40	1/40	2.5 to 75	24.5	1570	P.607	
				1/50	1/50	2.0 to 60	30.4	1720		
				1/60	1/59	1.7 to 50	35.3	1810		
				1/80	1/80	1.3 to 37	47.0	2450		
1/100	1/100	1.0 to 30		58.8	2650					
1/120	1/120	0.9 to 25		70.6	2740					
0.4 kW	24 VDC 48 VDC	28	1/160	1/160	0.7 to 18	94.1	2840	P.607		
			1/200	1/200	0.5 to 15	118	2840			
			1/240	1/236	0.5 to 12	137	2840			
			1/5	1/5	20.0 to 600	5.40	930		P.607	
			1/10	1/10	10.0 to 300	10.8	1470			
			1/15	1/15	6.7 to 200	17.6	1670			
		1/20	1/20	5.0 to 150	23.5	1860				
		1/25	1/25	4.0 to 120	30.4	2010				
		1/30	1/30	3.4 to 100	36.3	2210				
		32	1/40	1/40	2.5 to 75	49.0	2450	P.608		
			1/50	1/50	2.0 to 60	60.8	2650			
			1/60	1/59	1.7 to 50	70.6	2740			
1/80	1/80		1.3 to 37	90.2	3430					
1/100	1/100		1.0 to 30	118	3820					
1/120	1/120		0.9 to 25	137	4120					
1/160	1/160	0.7 to 18	186	4120	P.608					
1/200	1/200	0.5 to 15	235	4120						
1/240	1/236	0.5 to 12	284	4120						

1-2. Drawings

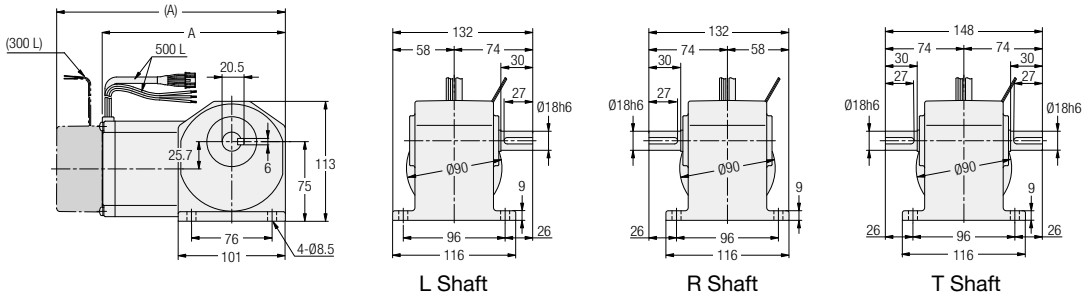
VH Type Right Angle Shaft

Shaft Diameter **18**

Foot Mounting

The values in parenthesis are those for gearmotors with a brake.

<Figure 1>



Power	Voltage	Part Number	Reduction Ratio	Figure Number	Brake	Approx. Weight (kg)	A
0.1 kW	12 VDC	VHLC18#-***N100L1A	10, 15, 20, 25, 30, 40, 50, 60	1	No	3.5	174.5
		VHLD18#-***N100L1A			Yes	4.0	215.5
0.1 kW	24 VDC	VHLC18#-***N100L2A	10, 15, 20, 25, 30, 40, 50, 60	1	No	3.5	174.5
		VHLD18#-***N100L2A			Yes	4.0	215.5
0.1 kW	48 VDC	VHLC18#-***N100L4A	10, 15, 20, 25, 30, 40, 50, 60	1	No	3.5	174.5
		VHLD18#-***N100L4A			Yes	4.0	215.5

Note: A shaft arrangement (L, R, T) will be indicated as # in the nomenclature. A reduction ratio will be indicated as ***.
Note: Please refer to page 604 for the performance table.

VG/AG Type
Parallel Shaft

VH Type
Right Angle Shaft

VF3S/VF3F Type
Concentric Right-Angle Hollow Core Concentric Right-Angle Shaft
F3S Type Right-Angle Shaft

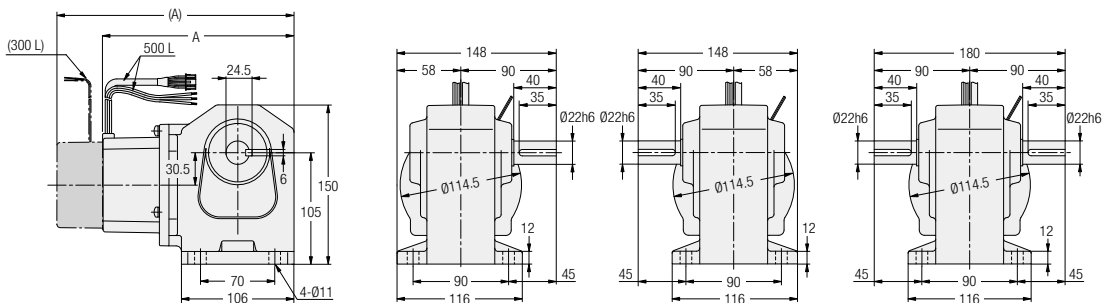
Control Unit Specification

Technical Documentation

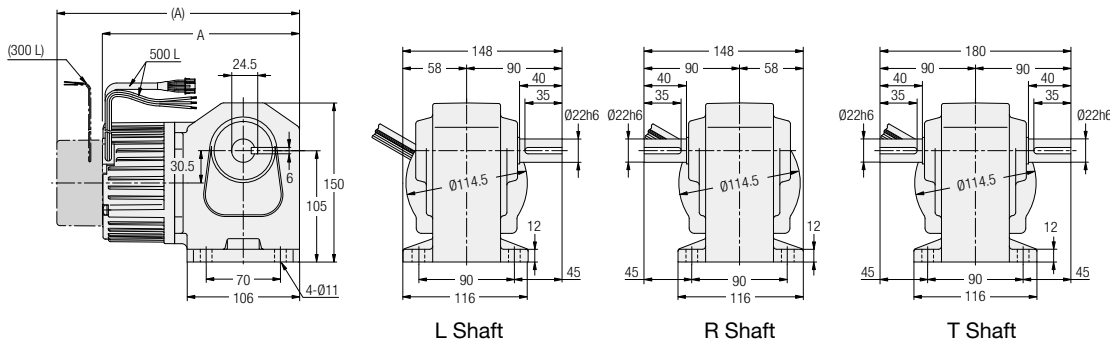
VH Type Right Angle Shaft Shaft Diameter **22** Foot Mounting

The values in parenthesis are those for gearmotors with a brake.

<Figure 1>



<Figure 2>



L Shaft

R Shaft

T Shaft

Power	Voltage	Part Number	Reduction Ratio	Figure Number	Brake	Approx. Weight (kg)	A
0.1 kW	12 VDC	VHLC22#-***N100L1A	80, 100, 120, 160, 200, 240	1	No	4.5	182.5
		VHLD22#-***N100L1A			Yes	5.0	223.5
0.1 kW	24 VDC	VHLC22#-***N100L2A	80, 100, 120, 160, 200, 240	1	No	4.5	182.5
		VHLD22#-***N100L2A			Yes	5.0	223.5
0.1 kW	48 VDC	VHLC22#-***N100L4A	80, 100, 120, 160, 200, 240	1	No	4.5	182.5
		VHLD22#-***N100L4A			Yes	5.0	223.5
0.2 kW	24 VDC	VHLC22#-***N200L2A	5, 10, 15, 20, 25, 30, 40, 50, 60	2	No	5.0	188
		VHLD22#-***N200L2A			Yes	5.5	229.5
0.2 kW	48 VDC	VHLC22#-***N200L4A	5, 10, 15, 20, 25, 30, 40, 50, 60	2	No	5.0	188
		VHLD22#-***N200L4A			Yes	5.5	229.5

Note: A shaft arrangement (L, R, T) will be indicated as # in the nomenclature. A reduction ratio will be indicated as ***.

Note: Please refer to page 604 for the performance table.

VG/AG Type
Parallel Shaft

VH Type
Right Angle Shaft

VF3S/VF3F Type
Coaxial Right Angle Hollow Bore Coaxial Right Angle Shaft
F3S Type Right Angle Shaft

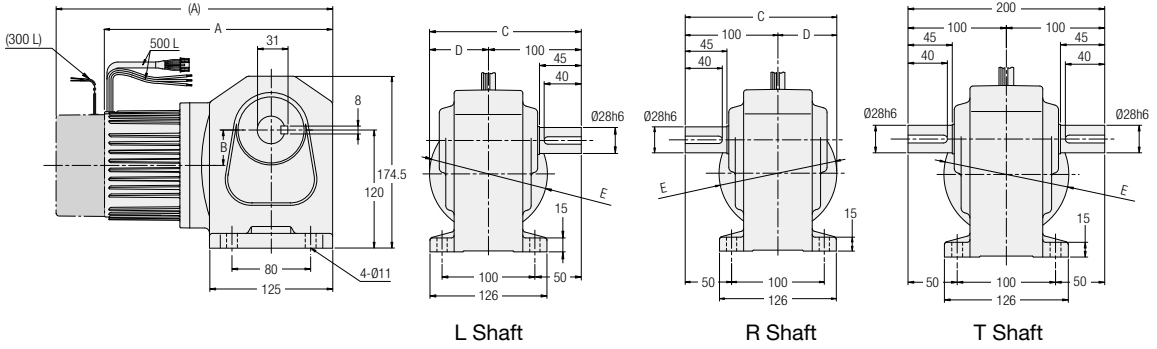
Control Unit Specification

Technical Documentation

VH Type Right Angle Shaft Shaft Diameter **28** Foot Mounting

The values in parenthesis are those for gearmotors with a brake.

<Figure 1>



Power	Voltage	Part Number	Reduction Ratio	Figure Number	Brake	Approx. Weight (kg)	A	B	C	D	E
0.2 kW	24 VDC	VHLC28#-***N200L2A	80, 100, 120, 160, 200, 240	1	No	6.5	200.5	39	163	63	Ø114.5
		Yes			7.5	242	39	163	63	Ø114.5	
0.2 kW	48 VDC	VHLC28#-***N200L4A	80, 100, 120, 160, 200, 240	1	No	6.5	200.5	39	163	63	Ø114.5
		Yes			7.5	242	39	163	63	Ø114.5	
0.4 kW	24 VDC	VHLC28#-***N400L2A	5, 10, 15, 20, 25, 30, 40, 50, 60	1	No	8.0	234.5	36	163.5	63.5	Ø127
		Yes			8.5	280.5	36	163.5	63.5	Ø127	
0.4 kW	48 VDC	VHLC28#-***N400L4A	5, 10, 15, 20, 25, 30, 40, 50, 60	1	No	8.0	234.5	36	163.5	63.5	Ø127
		Yes			8.5	280.5	36	163.5	63.5	Ø127	

Note: A shaft arrangement (L, R, T) will be indicated as # in the nomenclature. A reduction ratio will be indicated as ***.

Note: Please refer to page 604 for the performance table.

VG/PG Type
Parallel Shaft

VH Type
Right Angle Shaft

VF3S/VF3F Type
Concentric Right-Angle Hollow Bore Concentric Right-Angle Shaft
F3S Type Right-Angle Shaft

Control Unit Specification

Technical Documentation

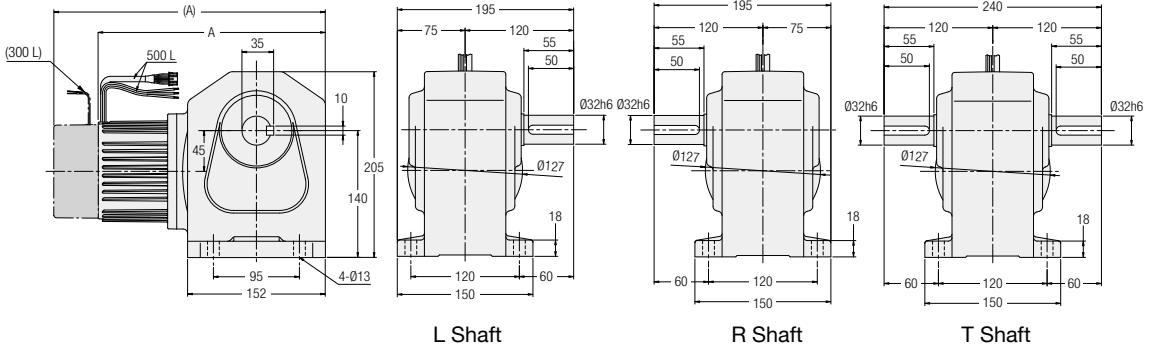
VH Type Right Angle Shaft

Shaft Diameter **32**

Foot Mounting

The values in parenthesis are those for gearmotors with a brake.

<Figure 1>



Power	Voltage	Part Number	Reduction Ratio	Figure Number	Brake	Approx. Weight (kg)	A
0.4 kW	24 VDC	VHLC32#-***N400L2A	80, 100, 120, 160, 200, 240	1	No	11.5	253.5
		VHLD32#-***N400L2A			Yes	12.0	299.5
0.4 kW	48 VDC	VHLC32#-***N400L4A	80, 100, 120, 160, 200, 240	1	No	11.5	253.5
		VHLD32#-***N400L4A			Yes	12.0	299.5

Note: A shaft arrangement (L, R, T) will be indicated as # in the nomenclature. A reduction ratio will be indicated as ***.
 Note: Please refer to page 604 for the performance table.