

Production Discontinuation of Powder Clutches and Powder Brakes

■Date of Issue

April 2021

■Relevant Models

Powder clutches and powder brakes

Thank you for your continued support of Mitsubishi Electric powder clutches and powder brakes.

Orders for some powder clutches and powder brakes decrease in recent years, resulting in difficulty maintaining our production system.

We are discontinuing production of the relevant models according to the following schedule. Thank you for your understanding.

For recommended alternative models, refer to the following.

 Page 2 RECOMMENDED ALTERNATIVE MODELS

1 MODELS TO BE DISCONTINUED

Model to be discontinued	Model	Rated torque (N·m)
ZKB-WN water cooled powder brake	ZKB-2.5WN	25
	ZKB-5WN	50
	ZKB-10WN	100
	ZKB-20WN	200
ZKB-40/ZA-40 powder clutch/brake (torque: 400N·m)	ZKB-40BN	400
	ZKB-40XN	
	ZKB-40HBN	
	ZKB-40WN	
	ZA-40Y	
ZKB-B-909 pressure-resistant and explosion-proof powder clutch	ZKB-1.2B4-909	12
	ZKB-5B4-909	50
	ZKB-10B2-909	100
	ZKB-20B2-909	200

2 SCHEDULE

Transition to made-to-order: July 1, 2021

Production discontinuation: April 27, 2022

Orders will no longer be accepted starting April 27, 2022.

3 REASON FOR DISCONTINUATION




A decrease in orders has resulted in difficulty maintaining our production system.

4 REPAIR SUPPORT

Repair support: Until April 27, 2029 (for seven years after the discontinuation of production)

We will support orders accepted by April 27, 2029. Note that we may not repair products if the parts are no longer available, even if still the repair support period.

5 RECOMMENDED ALTERNATIVE MODELS

Model to be discontinued		Recommended alternative model (recommended combination)	Reference
Module	Model	Model	
ZKB-WN water cooled powder brake	ZKB-2.5WN	ZKB-2.5HBN	 Page 3 Recommended Alternative Model to ZKB-WN Water Cooled Powder Brake
	ZKB-5WN	ZKB-5HBN	
	ZKB-10WN	ZKB-10HBN	
	ZKB-20WN	ZKB-20HBN	
ZKB-40/ZA-40 powder clutch/brake (torque: 400N·m)	ZKB-40BN	Vector motor + Inverter	 Page 11 Recommended Alternative Model to ZKB-40/ZA-40 Powder Clutch/Brake (Torque: 400N m)
	ZKB-40XN		
	ZKB-40HBN		
	ZKB-40WN		
	ZA-40Y		
ZKB-B-909 pressure-resistant and explosion-proof powder clutch	ZKB-1.2B4-909	Pressure-resistant and explosion-proof AC servomotor	 Page 13 Recommended Alternative Model to ZKB-B-909 Pressure-resistant and Explosion-proof Powder Clutch
	ZKB-5B4-909		
	ZKB-10B2-909		
	ZKB-20B2-909		

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5.1 Recommended Alternative Model to ZKB-WN Water Cooled Powder Brake

Replace the ZKB-WN water cooled powder brake with a ZKB-HBN powder brake.

Replacement from the ZKB-2.5WN powder brake

Specifications

Item	Model to be discontinued	Recommended alternative model
Model	ZKB-2.5WN	ZKB-2.5HBN
Shaft	Protruding shaft	
Rated torque (N·m)	25	
Coil (75°C)	Current (A)	1.24
	Electric power (W)	30
	Time constant (s)	0.12
Moment of inertia J (kgm ²)	3.80 × 10 ⁻³	
Allowable rotation speed (r/min)	1800	
Weight (kg)	9	11
Compatibility	Performance	Compatible*1
	Installation	Compatible*2

*1 Depending on conditions including the input rotation speed, the allowable heat dissipation of the alternative model may be lower. (☞ Page 3 Allowable heat dissipation)

*2 The width of the alternative model is larger. (☞ Page 4 External dimensions)

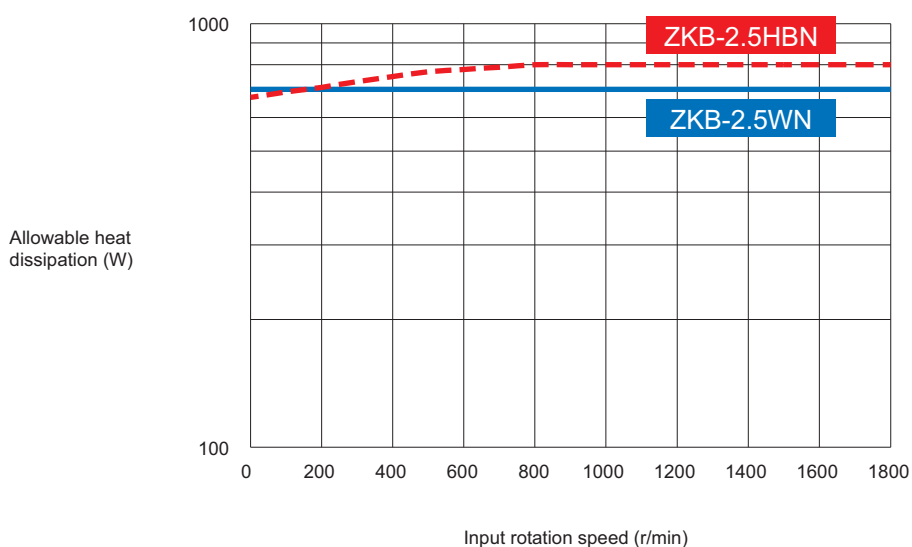
Point

If it is difficult to use the above alternative model, use a combination of vector motor and inverter. Please consult your local Mitsubishi Electric representative.

Standard torque characteristics

Standard torque characteristics are the same.

Allowable heat dissipation

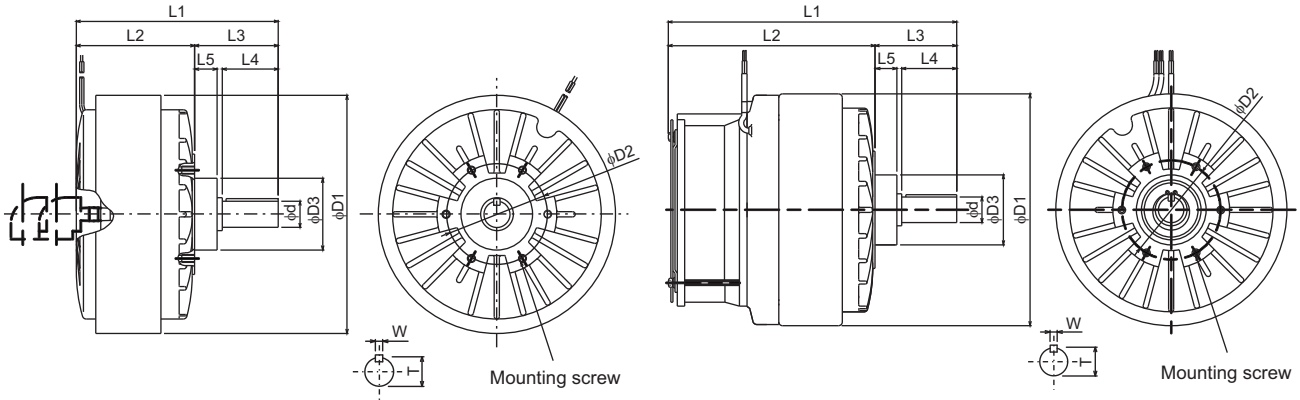


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External dimensions

Model to be discontinued: ZKB-2.5WN

Recommended alternative model: ZKB-2.5HBN



(Unit: mm)


Model	Dimensions											Mounting screw		
	L1	L2	L3	L4	L5	D1	D2	D3	Key part			Number of screws	Size	Depth (mm)
									d	W	T			
ZKB-2.5WN	155	91	64	43	17	182	78	55 (g7)	20 (h7)	5 (p7)	22 (0/-0.2)	6	M6	10
ZKB-2.5HBN	227	163	64	43	17	182	78	55 (g7)	20 (h7)	5 (p7)	22 (0/-0.2)	6	M6	10


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Replacement from the ZKB-5WN powder brake

Specifications

Item	Model to be discontinued	Recommended alternative model
Model	ZKB-5WN	ZKB-5HBN
Shaft	Protruding shaft	
Rated torque (N·m)	50	
Coil (75°C)	Current (A)	2.15
	Electric power (W)	51.5
	Time constant (s)	0.13
Moment of inertia J (kgm ²)	9.50 × 10 ⁻³	9.60 × 10 ⁻³
Allowable rotation speed (r/min)	1800	
Weight (kg)	14.5	16.5
Compatibility	Performance	Compatible ^{*1}
	Installation	Compatible ^{*2}

*1 Depending on conditions including the input rotation speed, the allowable heat dissipation of the alternative model may be lower. ( Page 5 Allowable heat dissipation)

*2 The width of the alternative model is larger. ( Page 6 External dimensions)

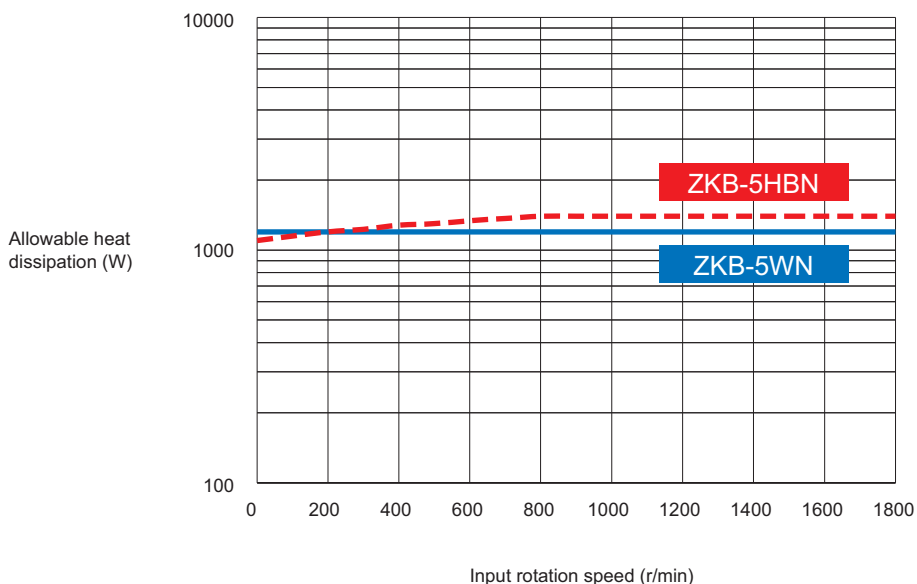
Point 

If it is difficult to use the above alternative model, use a combination of vector motor and inverter. Please consult your local Mitsubishi Electric representative.

Standard torque characteristics

Standard torque characteristics are the same.

Allowable heat dissipation

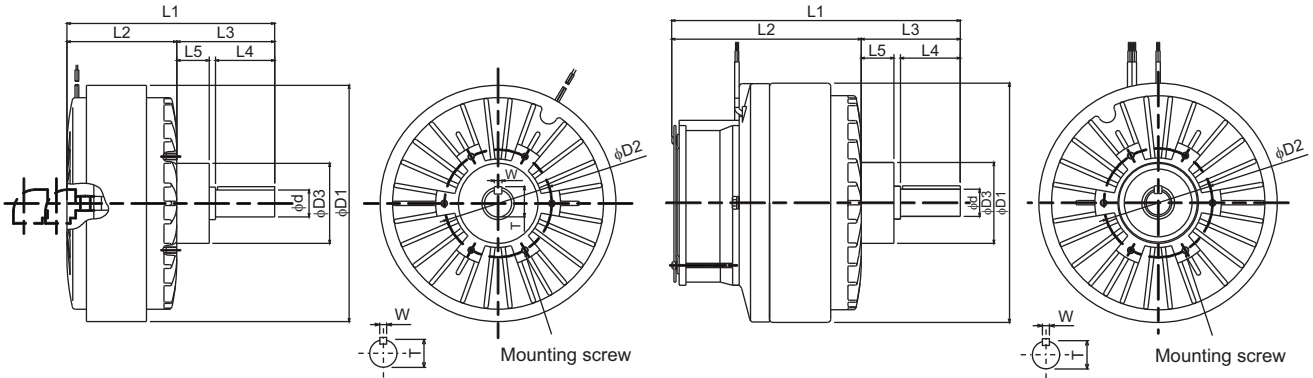


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External dimensions

Model to be discontinued: ZKB-5WN

Recommended alternative model: ZKB-5HBN



(Unit: mm)

Model	Dimensions											Mounting screw		
	L1	L2	L3	L4	L5	D1	D2	D3	Key part			Number of screws	Size	Depth (mm)
									d	W	T			
ZKB-5WN	193	102	91	55	30	219	100	74 (g7)	25 (h7)	7 (p7)	28 (0/-0.2)	6	M6	10
ZKB-5HBN	265	174	91	55	30	219	100	74 (g7)	25 (h7)	7 (p7)	28 (0/-0.2)	6	M6	10

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Replacement from the ZKB-10WN powder brake

Specifications

Item	Model to be discontinued	Recommended alternative model
Model	ZKB-10WN	ZKB-10HBN
Shaft	Protruding shaft	
Rated torque (N·m)	100	
Coil (75°C)	Current (A)	2.4
	Electric power (W)	57.6
	Time constant (s)	0.25
Moment of inertia J (kgm ²)	3.50 × 10 ⁻²	
Allowable rotation speed (r/min)	1800	
Weight (kg)	34	37
Compatibility	Performance	Compatible*1
	Installation	Compatible*2

*1 Depending on conditions including the input rotation speed, the allowable heat dissipation of the alternative model may be lower. (☞ Page 7 Allowable heat dissipation)

*2 The width of the alternative model is larger. (☞ Page 8 External dimensions)

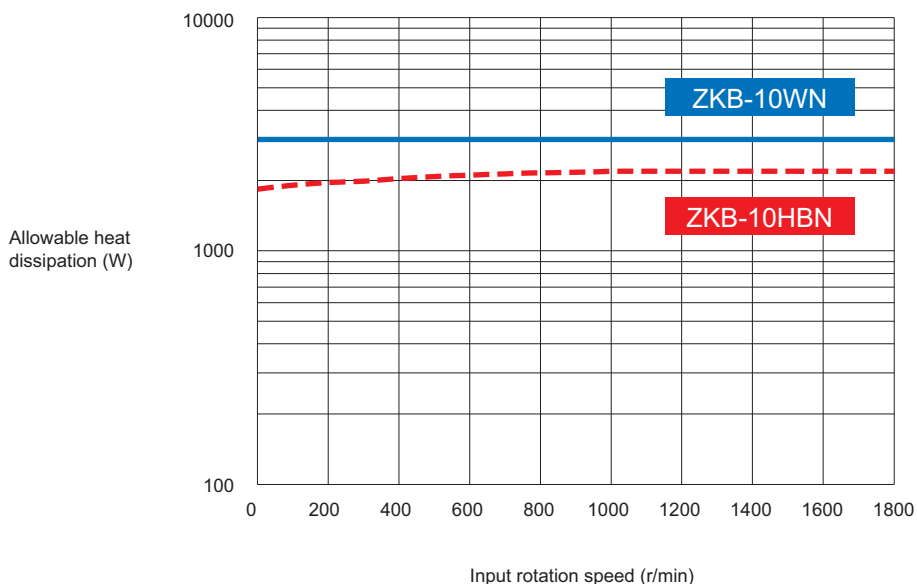
Point

If it is difficult to use the above alternative model, use a combination of vector motor and inverter. Please consult your local Mitsubishi Electric representative.

Standard torque characteristics

Standard torque characteristics are the same.

Allowable heat dissipation

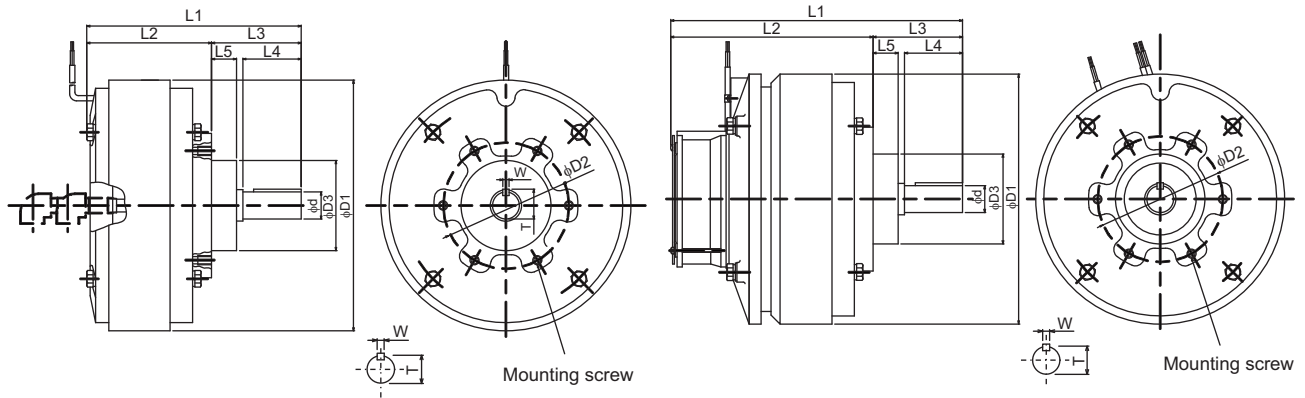


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External dimensions

Model to be discontinued: ZKB-10WN

Recommended alternative model: ZKB-10HBN



(Unit: mm)

Model	Dimensions											Mounting screw		
	L1	L2	L3	L4	L5	D1	D2	D3	Key part			Number of screws	Size	Depth (mm)
									d	W	T			
ZKB-10WN	239	139	100	65	28	278	140	100 (g7)	30 (h7)	7 (p7)	33 (0/-0.2)	6	M10	15
ZKB-10HBN	326	226	100	65	28	278	140	100 (g7)	30 (h7)	7 (p7)	33 (0/-0.2)	6	M10	15

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Replacement from the ZKB-20WN powder brake

Specifications

Item	Model to be discontinued	Recommended alternative model
Model	ZKB-20WN	ZKB-20HBN
Shaft	Protruding shaft	
Rated torque (N·m)	200	
Coil (75°C)	Current (A)	2.7
	Electric power (W)	64.8
	Time constant (s)	0.37
Moment of inertia J (kgm ²)	9.15 × 10 ⁻²	
Allowable rotation speed (r/min)	1800	
Weight (kg)	53	59
Compatibility	Performance	Compatible*1
	Installation	Compatible*2

*1 Depending on conditions including the input rotation speed, the allowable heat dissipation of the alternative model may be lower. (☞ Page 9 Allowable heat dissipation)

*2 The width of the alternative model is larger. (☞ Page 10 External dimensions)

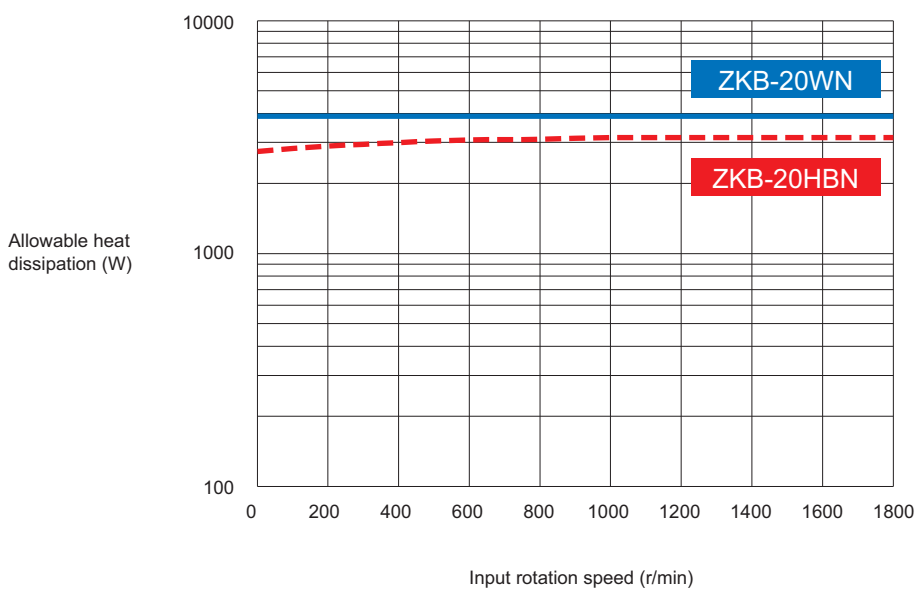
Point

If it is difficult to use the above alternative model, use a combination of vector motor and inverter. Please consult your local Mitsubishi Electric representative.

Standard torque characteristics

Standard torque characteristics are the same.

Allowable heat dissipation

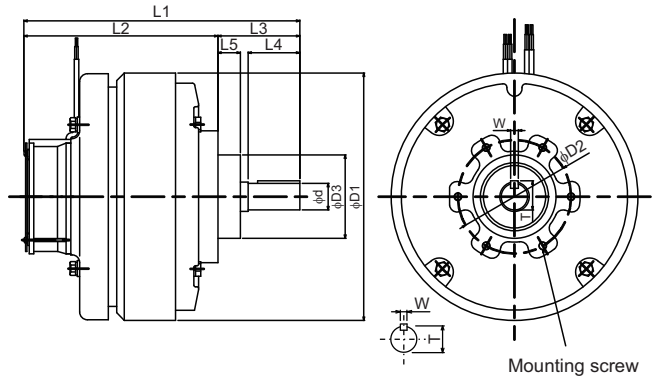
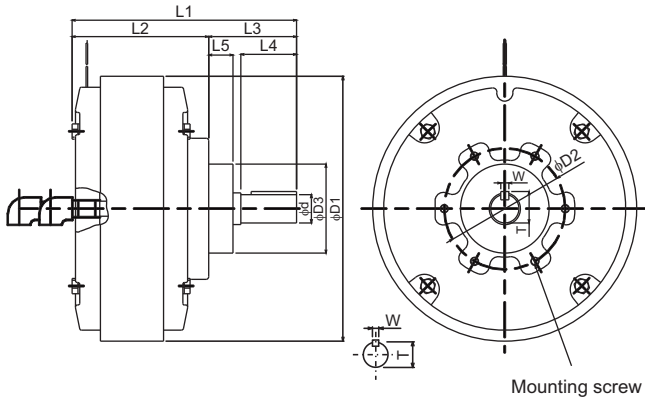


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External dimensions

Model to be discontinued: ZKB-20WN

Recommended alternative model: ZKB-20HBN



(Unit: mm)

Model	Dimensions											Mounting screw		
	L1	L2	L3	L4	L5	D1	D2	D3	Key part			Number of screws	Size	Depth (mm)
									d	W	T			
ZKB-20WN	278	169	109	69	30	327	150	110 (g7)	35 (h7)	10 (p7)	38.5 (0/-0.2)	6	M10	15
ZKB-20WN	366	257	109	69	30	327	150	110 (g7)	35 (h7)	10 (p7)	38.5 (0/-0.2)	6	M10	15

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5.2 Recommended Alternative Model to ZKB-40/ZA-40 Powder Clutch/Brake (Torque: 400N m)

Replace the ZKB-40/ZA-40 powder clutch/brake with a combination of vector motor and inverter.

Model to be discontinued

Model	Rated torque (N·m)	Allowable heat dissipation (W)	Allowable rotation speed (r/min)
ZKB-40BN	400	2800 ^{*1}	1800
ZKB-40XN			
ZKB-40WN		5200	
ZKB-40HBN		2500	
ZA-40Y		3600	

*1 It indicates the allowable heat dissipation for forced air-cooling.

Recommended alternative model

There is no installation compatibility between discontinued models and alternative models.

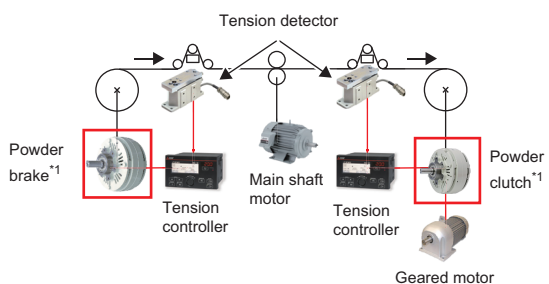
Vector motor		Inverter
Model	Output (kW)	Model
SF-V5RU	1.5 to 55	FR-A800 series
SF-PR-SC	1.5 to 55	
SF-THY	75	

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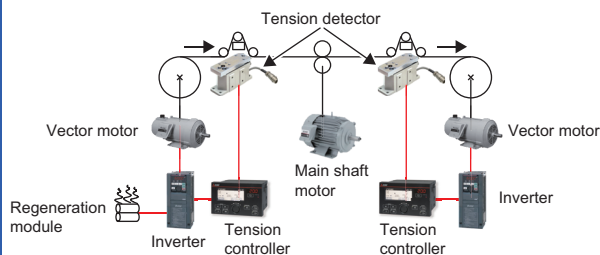
Example of the structure with a vector motor and inverter (Roll to Roll processing)

Tension feedback control

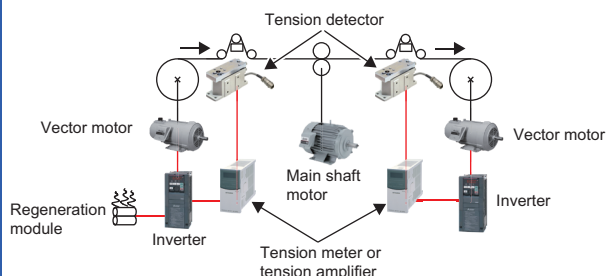
ZKB-40/ZA-40 powder clutch/brake (torque: 400N·m) (model to be discontinued)	Vector motor + Inverter (recommended alternative model)
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• When tension is controlled using a tension controller^{*2}



• When tension is controlled using an inverter^{*2*3}



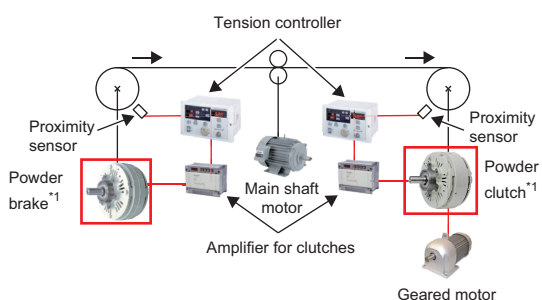
*1 The powder brake and powder clutch are to be discontinued.

*2 When a vector motor and inverter are used for unwinding, a regenerative module is required.

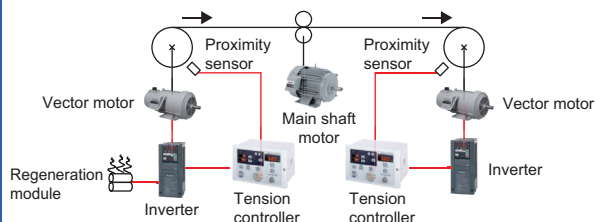
*3 When tension is controlled using an inverter, an FR-A800-R2R (inverter dedicated to the Roll to Roll processing) is required. No tension controller is required, however, a tension meter or a tension amplifier is required.

Open-loop control

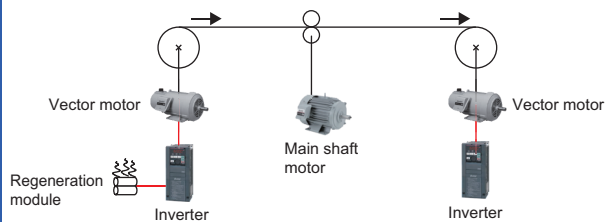
ZKB-40/ZA-40 powder clutch/brake (torque: 400N·m) (model to be discontinued)	Vector motor + Inverter (recommended alternative model)
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• When tension is controlled using a tension controller^{*2}



• When tension is controlled using an inverter^{*2*3}



*1 The powder brake and powder clutch are to be discontinued.

*2 When a vector motor and inverter are used for unwinding, a regenerative module is required.

*3 When tension is controlled using an inverter, an FR-A800-R2R (inverter dedicated to the Roll to Roll processing) is required.

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5.3 Recommended Alternative Model to ZKB-B-909 Pressure-resistant and Explosion-proof Powder Clutch

Replace a model in the following table with a pressure-resistant and explosion-proof AC servomotor and servo amplifier.

Model to be discontinued

Model	Rated torque (N·m)	Allowable heat dissipation (W)	Allowable rotation speed (r/min)
ZKB-1.2B4-909	12	100	1800
ZKB-5B4-909	50	130	
ZKB-10B2-909	100	210	
ZKB-20B2-909	200	310	

Recommended alternative model

There is no installation compatibility between discontinued models and alternative models.

Pressure-resistant and explosion-proof AC servomotor ^{*1}		Servo amplifier
Model	Output (kW)	Model
HG-FXN23B(K)	0.2	MR-J4X series
HG-FXN63B(K)	0.6	
HG-FXN103B(K)	1.0	
HG-FXN153B(K)	1.5	
HG-FX223B(K)	2.2	
HG-FX303B(K)	3.0	
HG-FX353B(K)	3.5	
HG-FX453B(K)	4.5	

*1 These motors are partner products manufactured by DAIICHI COMPONENTS, LTD. for the Mitsubishi Electric servo system.

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REVISIONS

Version	Date of Issue	Revision
A	April 2021	First edition

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