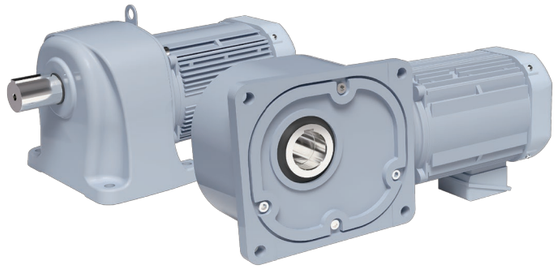
Switching to aluminum gearhead cases reduces weight by approx. 20 to 37%.



Target model: GAL50 frames / FAS55 frames

Weight-reduction ratio for major products

Type	Power	Typical model weight	After switching to aluminum	Product weight-reduction ratio
GAL	0.4kW	52.5kg	33.0kg	37%
FAS		60.5kg	42.7kg	29%
GAL	0.75kW	61.0kg	41.5kg	32%
FAS		68.5kg	50.7kg	26%
GAL	1.5kW	64.0kg	44.5kg	30%
FAS		74.5kg	56.7kg	24%
GAL	2.2kW	71.5kg	52.0kg	27%
FAS		85.0kg	67.2kg	21%

Benefits of Weight Reduction Using Aluminum

1. Eases and speeds up assembly work
2. Reduces equipment weight and simplifies structures
3. Reduces greenhouse gas emissions during part manufacturing processes

CO_2 Reduction During Part Manufacturing Processes

■ Amount of CO_2 emitted when refining 1 kg of material

Material	CO_2 emissions (kg-CO_2/kg)
Aluminum (recycled bare metal)	0.309
Iron (cast iron)	2.26

■ Expected CO_2 reductions per product

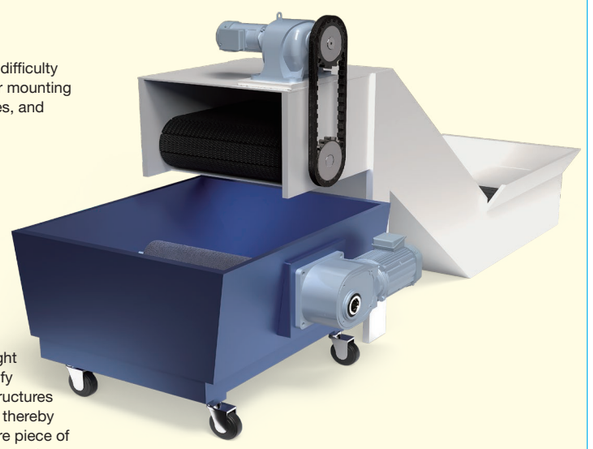
GAL50: Approx. -63.5 kg/unit • FAS55: Approx. -60 kg/unit

*Surveyed by NISSEI CORPORATION

Reducing gearmotor weight improves workability as well as equipment structures.

Eases and speeds up assembly work

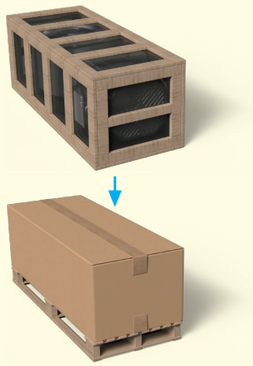
Helps reduce the level of difficulty and danger for gearmotor mounting and removal in high places, and increases work speeds.



Reduces equipment weight and simplifies structures

Reducing gearmotor weight is also expected to simplify the frame and housing structures of the mating equipment, thereby further lightening the entire piece of equipment and increasing the freedom of equipment design.

Improved packaging !



New packing method facilitate handling and disposal

Replacing some wooden crates with reinforced cardboard boxes simplifies disposal and makes transportation easier.

NISSEI CORPORATION URL https://www.nissei-gtr.global/en/

Overseas Sales Department

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2026.3

Aluminum-Driven Lightweighting: Enhancing Installation Ease and Design Flexibility.

NEW [Applicable models]

G3L: 50 frames FS: 55 frames

*Model names updated for aluminum specifications: G3L→GAL / FS→FAS

GAL (G3L) Approx. −30% FAS (FS) Approx. −20% Weight Reduction

Lightness that redefines your design possibilities.

Gearhead case

Offer lightweight models with aluminum body

These models help lighten mounting frames and simplify equipment structures for conveyors, lifts, and other large pieces of machinery in particular. They also ease mounting work and enhance the freedom of equipment design. Now available in G3L type 50 frame and FS type 55 frame for greater design flexiblity.

Contributions to the SDGs

■ **Reduce greenhouse gas emissions**

Switching to aluminum materials is expected to reduce CO_2 emissions during part manufacturing processes.

■ **Improve packaging**

Some wooden crates can be replaced with reinforced cardboard boxes. This helps to simplify disposal and to ease handling.

7 AFFORDABLE AND CLEAN ENERGY

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

NISSEI CORPORATION

NEW GAL type Model change

■ Induction Gearmotor

	Mounting Type	Frame Size	Shaft Type	Reduction Ratio		Motor Type	Motor Specifications	Power	Number of Phases	Supply Voltage	Standards	Terminal Box	Brake	Option	Option Code
Original Part Number	G3L	50	N	300	–	M	R	08	T	N	N	T	N		
New Part Number	GAL	50	N	300	–	M	R	08	T	N	N	T	N		

■ Double Shaft Type / S-Type Reducer

	Mounting Type	Motor Type		Frame Size		Reduction Ratio		Power	Option	Terminal Box	Option	Option Code
Original Part Number	G3L		–	50	–	600	–	040				
New Part Number	GAL		–	50	–	600	–	040				

■ IPM Gearmotor

	Mounting Type	Frame Size	Shaft Type	Reduction Ratio	Backlash		Motor Type	Motor Specifications	Power	Supply Voltage	Standards	Terminal Box	Brake	Option	Option Code
Original Part Number	G3L	50	N	900	L	–	P	M	04	N	V	T	N		
New Part Number	GAL	50	N	900	L	–	P	M	04	N	V	T	N		

■ High Precision Gearboxes for Servo Motor

	Mounting Type	Motor Type	Frame Size	Shaft Type		Reduction Ratio	Accuracy	Power	Type	Option	Option Code
Original Part Number	AG3L	Z	50		–	120	L	2000	K22		
New Part Number	AGAL	Z	50		–	120	L	2000	K22		

NEW GAL type Target model

■ Induction Gearmotor

Part Number — 4 Poles Motor Power — Frame Size — **Reduction Ratio**

3-Phase

Gearmotor Gearmotor with Brake Brakemotors with Manual Release IP65 Gearmotor IP65 Gearmotor with Brake	3-Phase 0.4kW	50	1/600 1/750 1/900 1/1200
	3-Phase 0.75kW	50	1/300 1/375 1/450
	3-Phase 1.5kW	50	1/100 1/120 1/160 1/200
	3-Phase 2.2kW	50	1/30 1/40 1/50 1/60 1/80 1/100

1-Phase

Gearmotor Gearmotor with Brake	1-Phase 0.4kW	50	1/600 1/750 1/900 1/1200

Double Shaft Type / S-Type Reducer

Reducer (Double Shaft Type) S-Type Reducer	0.4kW	50	1/600 1/750 1/900 1/1200
	0.75kW	50	1/300 1/375 1/450
	1.5kW	50	1/100 1/120 1/160 1/200
	2.2kW	50	1/30 1/40 1/50 1/60 1/80 1/100

■ IPM Gearmotor

Part Number — Motor Power — Frame Size — **Reduction Ratio**

Gearmotor Gearmotor with Brake Brakemotors with Manual Release IP65 Gearmotor IP65 Gearmotor with Brake	3-Phase 0.4kW	50	1/600 1/750 1/900 1/1200
	3-Phase 0.75kW	50	1/300 1/375 1/450
	3-Phase 1.5kW	50	1/100 1/120 1/160 1/200
	3-Phase 2.2kW	50	1/30 1/40 1/50 1/60 1/80 1/100

■ Low Backlash High Precision Gearboxes for Servo Motor

Part Number — Motor Power — Frame Size — **Reduction Ratio**

Z Type Gearbox	2000W	50	1/100 1/120 1/160 1/200

* Items outlined in ( ) are limited torque types. Please make sure to check the allowable output shaft torque in the performance table.

FAS type Model change

■ Induction Gearmotor

	Mounting Type	Frame Size	Shaft Type	Reduction Ratio		Motor Type	Motor Specifications	Power	Number of Phases	Supply Voltage	Standards	Terminal Box	Brake	Option	Option Code
Original Part Number	FS	55	N	80	–	M	R	15	T	N	N	T	B2	X	T9HZ
New Part Number	FAS	55	N	80	–	M	R	15	T	N	N	T	B2	X	T9HZ

■ Double Shaft Type / S-Type Reducer

	Mounting Type	Motor Type		Frame Size		Reduction Ratio		Power	Option	Terminal Box	Option	Option Code
Original Part Number	FS	S	–	55	–	20	–	220	X			
New Part Number	FAS	S	–	55	–	20	–	220	X			

■ IPM Gearmotor

	Mounting Type	Frame Size	Shaft Type	Reduction Ratio	Backlash		Motor Type	Motor Specifications	Power	Supply Voltage	Standards	Terminal Box	Brake	Option	Option Code
Original Part Number	FS	55	N	300	N	–	P	D	15	N	V	T	N	X	T9HZ
New Part Number	FAS	55	N	300	N	–	P	D	15	N	V	T	N	X	T9HZ

FAS type Target model

■ Induction Gearmotor

Part Number — 4 Poles Motor Power — Frame Size — **Reduction Ratio**

3-Phase

Gearmotor Gearmotor with Brake Brakemotors with Manual Release IP65 Gearmotor IP65 Gearmotor with Brake	3-Phase 0.4kW	55	1/600 1/750 1/900 1/1200 1/1500
	3-Phase 0.75kW	55	1/300 1/375 1/450
	3-Phase 1.5kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	3-Phase 2.2kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120

1-Phase

Gearmotor Gearmotor with Brake	1-Phase 0.4kW	55	1/600 1/750 1/900 1/1200 1/1500

Double Shaft Type / S-Type Reducer

Reducer (Double Shaft Type) S-Type Reducer	1.5kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	2.2kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120

■ IPM Gearmotor

Part Number — Motor Power — Frame Size — **Reduction Ratio**

Gearmotor Gearmotor with Brake Brakemotors with Manual Release IP65 Gearmotor IP65 Gearmotor with Brake	3-Phase 0.4kW	55	1/600 1/750 1/900 1/1200 1/1500
	3-Phase 0.75kW	55	1/300 1/375 1/450
	3-Phase 1.5kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	3-Phase 2.2kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120

* Items outlined in ( ) are limited torque types. Please make sure to check the allowable output shaft torque in the performance table.