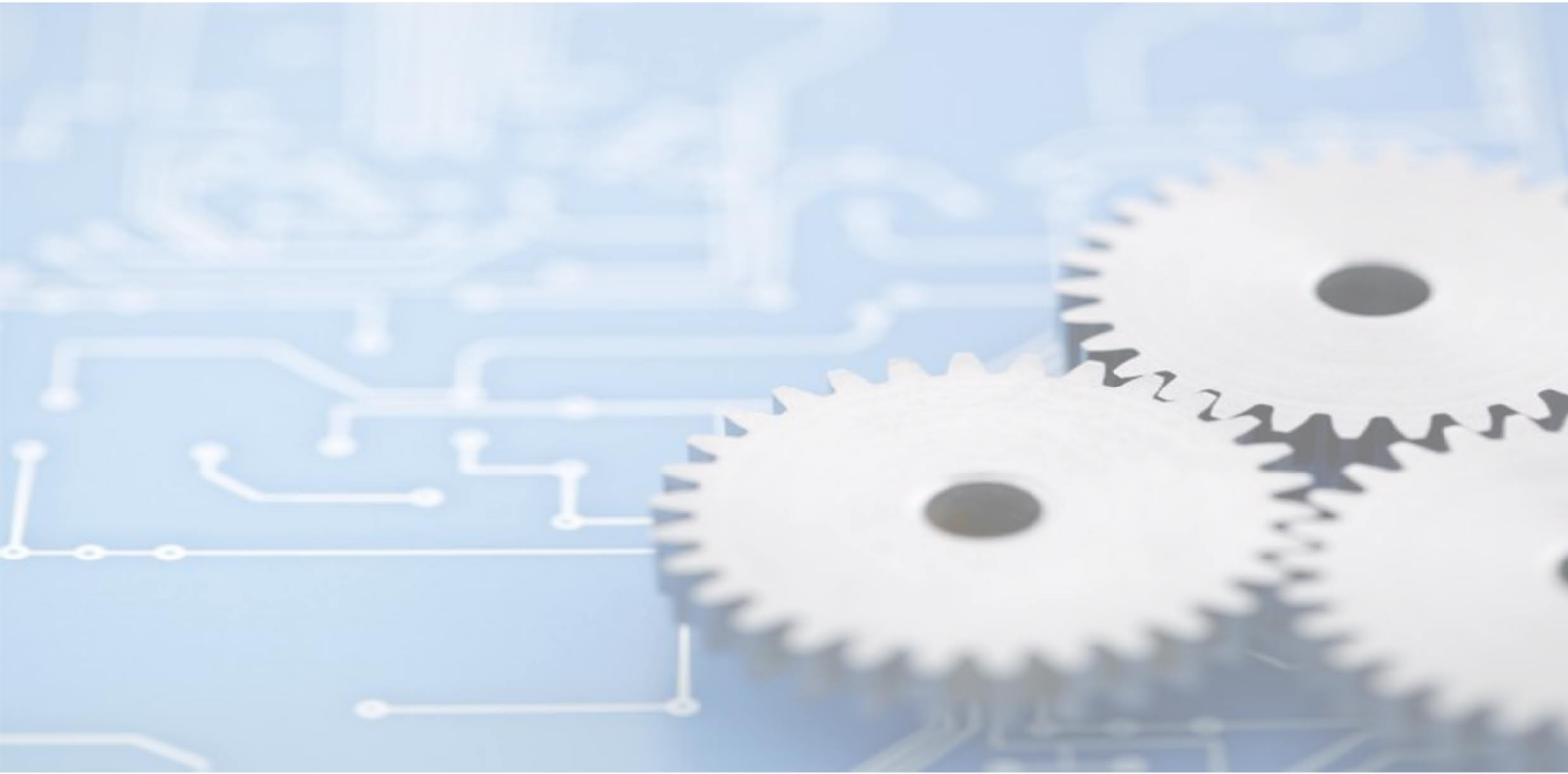


INDXIA

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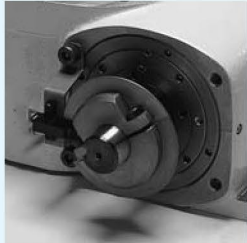
HA SERIES INDEXING DRIVES PRODUCT CATALOGUE



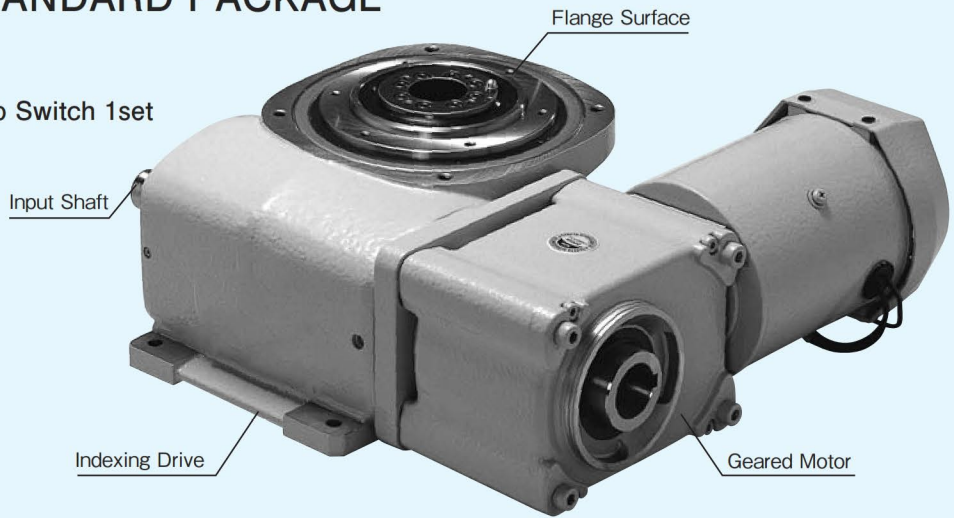
Tel: 91712373
Email: sshauto@singnet.com.sg
Web: www.sshautomation.com.sg

HA SERIES STANDARD PACKAGE

- Indexing Drive
- Geared Motor
- Timing Cam and Photo Switch 1set

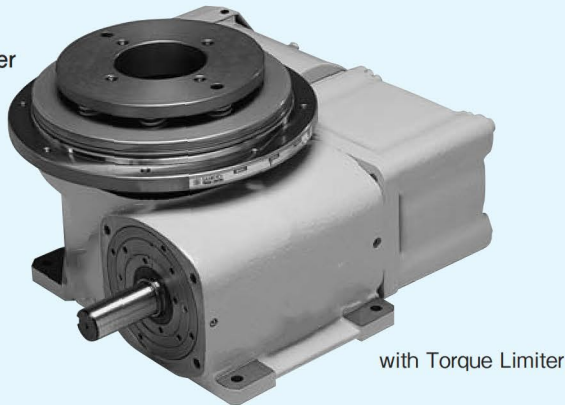


Timing Cam-Photo Switch



Option

- Torque Limiter
- Inverter



with Torque Limiter



Indexing Drive

HA Series (Standard Type)

1DWELL (HA070~HA450)

S θ	120°	150°	180°	210°	240°	270°	300°	330°
2								△
3							△	△
4					△	△		
5				△	△	○		
6			△	△	○	○		
8		△	△	○	○	○		
10	△	△	○	○	○	○		
12	△	△	○	○	○	○		
15	△	△	○	○	○	○		
16	△	△	○	○	○	○		

2DWELL (HA070~HA450)

S θ	120°	150°	180°	210°	240°	270°	300°	330°
16				○	○	○		
20				○	○	○		
24				○	○	○		
32				○	○	○		

S : Number of stops

θ : Index period

△ SMS-3 Curve or SMCV-3 Curve

○ SMS-3 Curve only

△ SMCV-3 Curve only

■ : Can not be produced

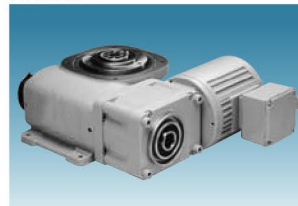
□ : Can be produced as special instruction

Note: 2 DWELL drives will two indexes and two stops per one rotation of camshaft.
The total indexing period per one rotation of the camshaft can be found in the index period column.

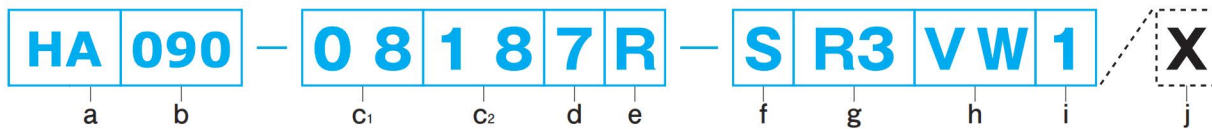
Model	HA070	HA090	HA110	HA150	HA190	HA230	HA330	HA450
Geared motor power (kW)	0.1/0.2	0.2/0.4	0.4/0.75	0.75/1.5 (2.2)	1.5/2.2	2.2/3.7 (5.5)	5.5/7.5 (11)	11/15 (18)
Timing cam and photo switch	Up to 3 sets on double-end input shafts						Up to 3 sets with optional extended shaft	
Optional torque limiter	T07B	T09B	T11B	T15B	T19B	T23B	—	—
Optional inverter	selected by us as requested							

The number of motor power in () is a special instruction.

HA070



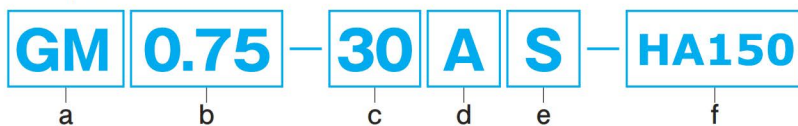
Model Code



a Model	b Size	c ₁ Number of Stops (S)	c ₂ Index Period (θ)	d Motion Curve	e Hand of Cam
HA HA Series	090 90mm	08 8 Stop	18 180°	7 SMS-3 Curve	R 1 Dwell Right Hand Cam
	Shaft-to-shaft distance 070, 090, 110, 150, 230 are available	Number of stops of the Indexing Drive.	Cam rotation period (during which the output moves.) (Total angle at 2 dwell)	7 SMS-3 Curve Modified Sine 8 SMCV-3 Curve Modified Constant Velocity 9 Custom-made Motion Curve (Special order)	Indicates rotating direction of input and output shafts and number of dwells. 1 Dwell 2 Dwell Right Hand Cam R R2 Left Hand Cam L L2

Geared Motor

Example

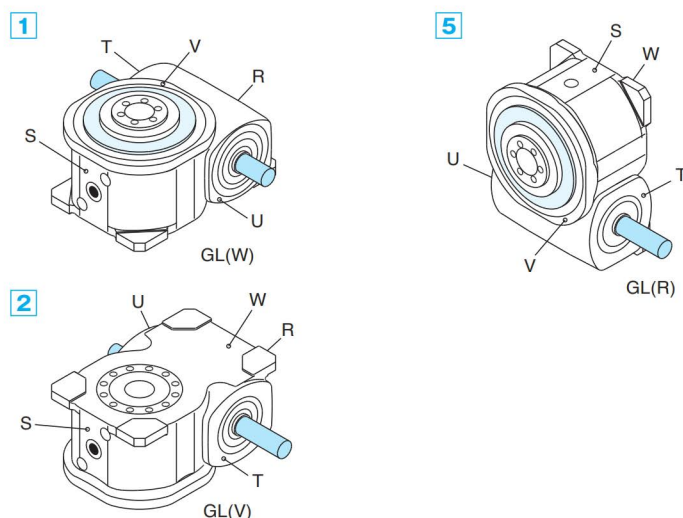
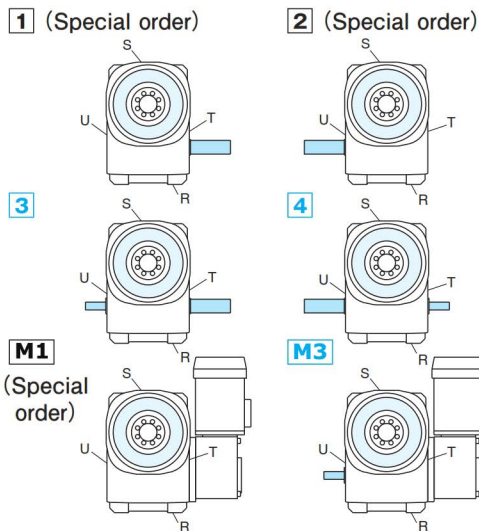


a Model	b Motor power	c Gear ratio	d Motor voltage	e Specification	f Model size
GM Geared motor	Indicates the motor power 0.20.2kW 0.750.75kW 3.73.7kW 1111kW	Indicates the gear ratio 1010 2020 20.37 ..20.37	Indicates the motor voltage A 200/220V B 230V	Indicates the specification of geared motor S Standard	Indicates the size and model of HA series

Model Selection information

INDXIA model codes are specified by a combination of numbers and alphabetic characters. An erroneously specified product code will usually result in a product unusable in other applications. Use the same caution when specifying the product code for the geared motor and optional torque limiters. When specifying other requirements such as special gear ratios, motor voltages, copper plated terminal boxes, etc., include the symbol X at the end of the product code and attach a separate user requirements sheet. Queries concerning price, volume, and delivery should be directed to a salesman or representative.

f Output	g Input Shaft Projection	h Mounting Holes	i Mounting Position	j Special Instruction
S Standard	M3 Both T and U surface	VW	1	X
S Standard L with Torque Limiter on output	Input shaft projection as shown below. HA070~HA230 1, 2, M1 become special order	HA070~HA230 Tapped mounting holes on surface V and through mounting holes on surface W come automatically.	Mounting position as shown below. 1, 2, 5 are available	Include the symbol X in case of special orders <input type="checkbox"/> Standard (No Symbols) <input checked="" type="checkbox"/> Special Instructions



Timing Cam-Photo Switch

TC	1	HA150
a	b	c
a Model	b Number	c Model size
TC Timing cam +Photo switch	1 ...1set 2 ...2set 3 ...3set	Indicates the size and model of HA series mounting timing cam.

Torque Limiter(option)

Model code example T09B - 20 L			
a	b	c	d
a Torque limiter size	b Model	c Maximum tripping torque(Tmax)	d Type of spring
Indicates the size of the torque limiter 7, 9, 11, 15, 19, 23 Choose same size as HA series	Indicates the type of torque limiter	Indicates the maximum tripping torque 20 Tmax = 200N·m	Two types of springs are available: L, H L Light-duty coil springs H Heavy-duty coil springs

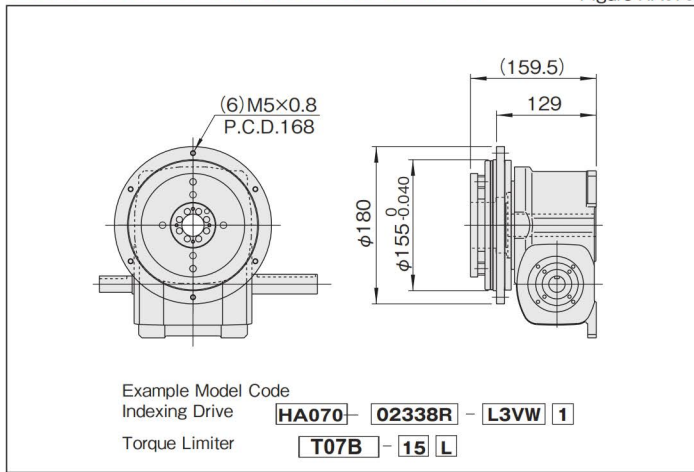
Specifications of geared motor (depends on brand of motor)

Table HA070-2

Code		Motor Power (kW)	Actual Gear Ratio (i)	Output Shaft Speed N_M (rpm)		Output Allowable Torque T_R (N·m)		Moment of inertia J_M (kg·m ²)	Weight (kg)
200/220V	230V			50Hz	60Hz	50Hz	60Hz		
GM0.1-20AS	GM0.1-20BS	0.1	20	75	90	11	8.6	4.75×10^{-4}	6
GM0.1-25AS	GM0.1-25BS		25	60	72	13	11		
GM0.1-30AS	GM0.1-30BS		30	50	60	16	13		
GM0.1-40AS	GM0.1-40BS		40	37.5	45	21	18		
GM0.1-50AS	GM0.1-50BS		50	30	36	25	22		
GM0.2-10AS	GM0.2-10BS	0.2	10	150	180	11	9.2	7.25×10^{-4}	7.5
GM0.2-15AS	GM0.2-15BS		15	100	120	17	14		
GM0.2-20AS	GM0.2-20BS		20	75	90	23	19		
GM0.2-25AS	GM0.2-25BS		25	60	72	27	24		
GM0.2-30AS	GM0.2-30BS		30	50	60	33	27		
GM0.2-40AS	GM0.2-40BS		40	37.5	45	44	37		
GM0.2-50AS	GM0.2-50BS		50	30	36	55	46		

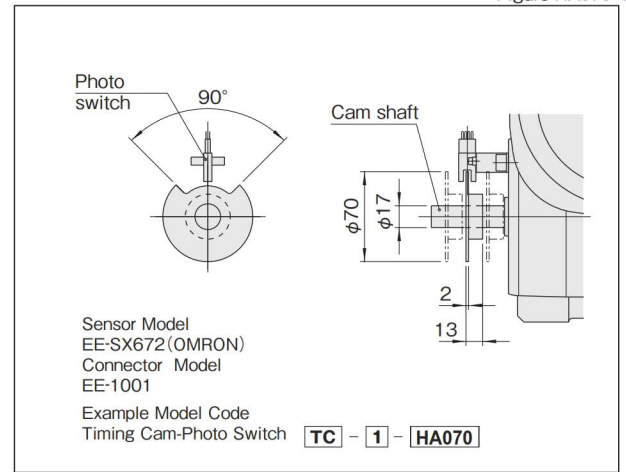
Torque limiter mounting specifications (option)

Figure HA070-3



Timing cam-Photo switch

Figure HA070-4



Precautions

- The dimension drawing (Figure HA070-1, HA070-2) shows the standard mounting position for geared motor.
- Model HA070 can be equipped with 0.1kW and 0.2kW motor. Exchange is not permitted after purchase because of different hollow size of geared motor.
- When using the 0.2kW motor, the motor will protrude beyond the indexer flange, and geared motor's bottom surface will also protrude beyond Index W surface.
- Model HA070 can be equipped with torque limiter T07B.
- Up to 3 sets of timing cams and photo switches can be added as necessary.
- The notch angle (90°) of timing cam is not adjustable.

Standard input shaft (T surface side)

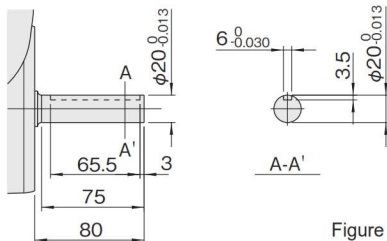


Figure HA070-5

Output fixed flange specifications

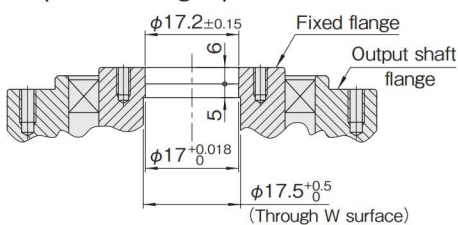


Figure HA070-6

Locations of oil plug, etc., and oil capacity

Figure HA070-7

Mounting position	1	2	5
Location			
Oil capacity (ℓ)	0.4	0.7	0.8

Precautions

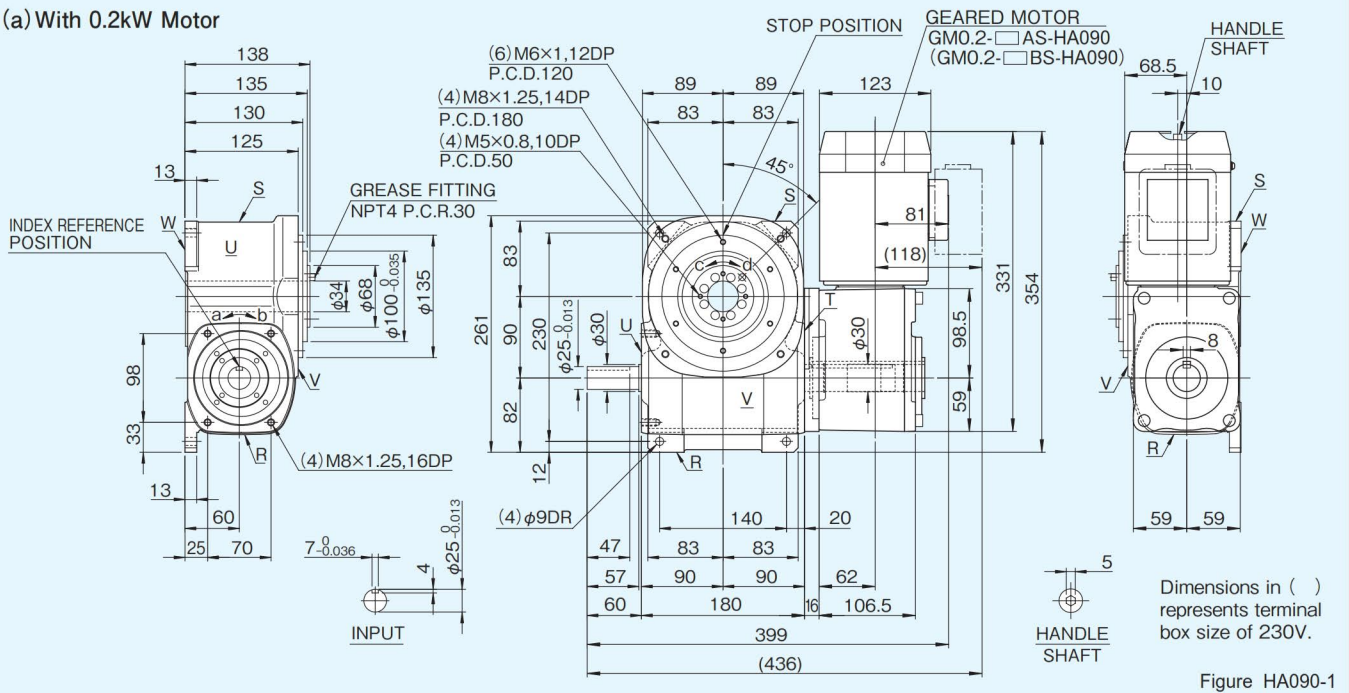
- Each point indicated in the mounting positions shown in Figure HA070-7 represents (starting at top) the oil plug (PT1/4), oil level (VA-01), and drain (PT1/4).
- The mounting positions correspond to code i for the indexing drives.
- The oil capacities indicated in Figure HA070-7 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

HA090

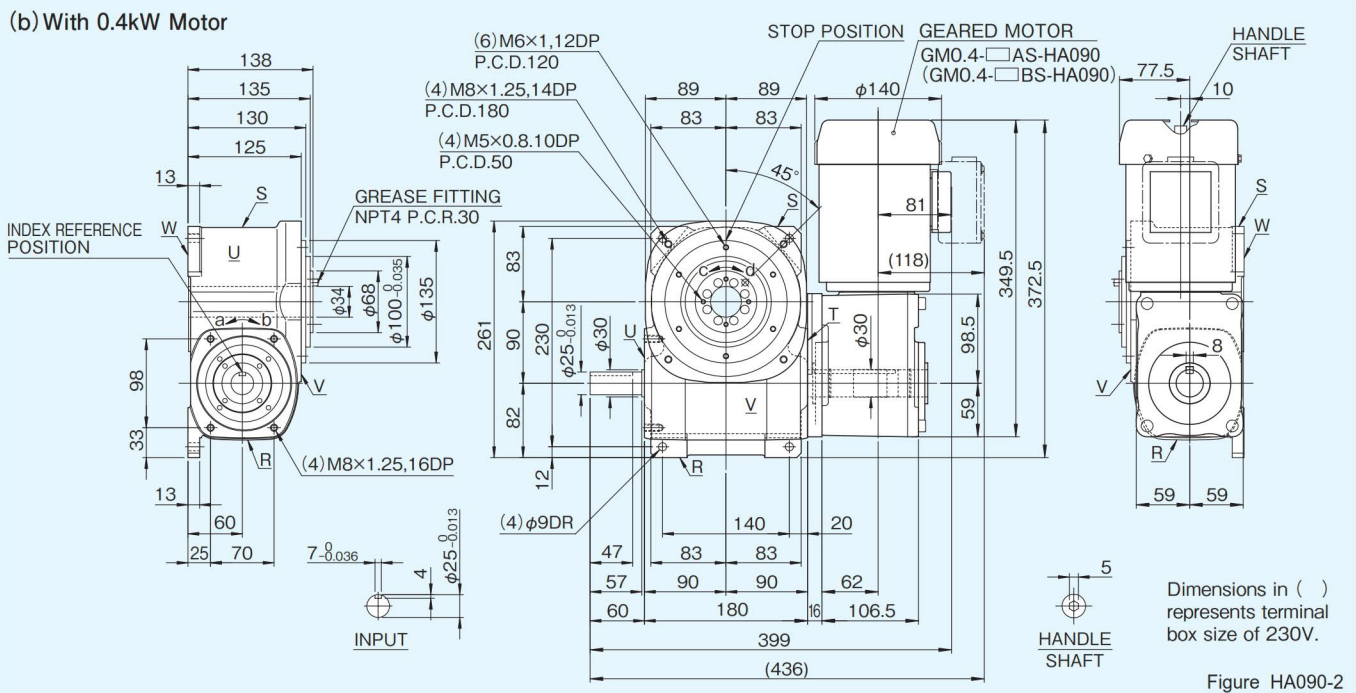
HA090 Dimensions

(Unit : mm)

(a) With 0.2kW Motor



(b) With 0.4kW Motor



Specifications

Table HA090-1

Item	Symbol	Unit	Value	Item	Symbol	Unit	Value	Item	Symbol	Unit	Value
Output allowable axial load	P_1	N	4900	Input allowable axial load	P_4	N	2500	Indexing accuracy (1 DWELL)		sec	±30
Output allowable radial load	P_2	N	2100	Input maximum repetitious bending force	P_5	N	2500	Indexing accuracy (2 DWELL)		sec	±60
Output static torque	T_s	N·m	Refer to Torque Capacity Table	Input maximum repetitious allowable torque	P_6	N·m	245	Repetitive accuracy		sec	30
Output torsional rigidity	K_1	$\frac{N \cdot m}{rad}$	2.64×10^5	Input torsional rigidity	K_2	$\frac{N \cdot m}{rad}$	3.36×10^4	Product weight (Index body)		kg	24
Output inertia	J_o	$kg \cdot m^2$	1.11×10^{-2}	Input inertia	J_c	$kg \cdot m^2$	2.5×10^{-3}				
Output allowable bending moment	P_3	N·m	98								

Note: Input inertia: J is calculated in dwell.

1N·m≒0.102kgf·m

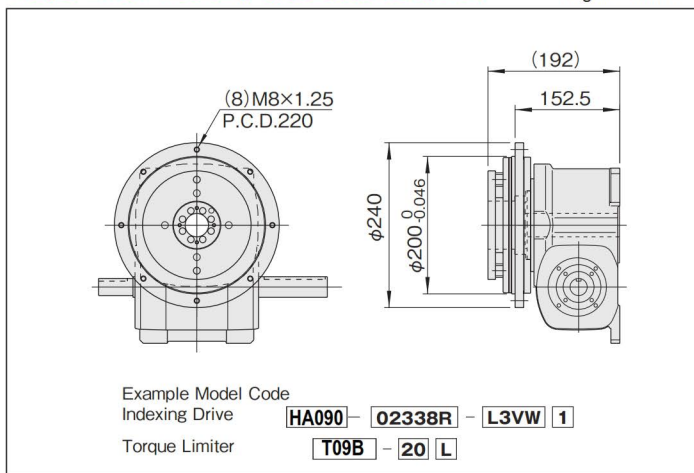
Specifications of geared motor (depends on brand of motor)

Table HA090-2

Code		Motor Power (kW)	Actual Gear Ratio (i)	Output Shaft Speed N_M (rpm)		Output Allowable Torque T_R (N·m)		Moment of inertia J_M (kg·m ²)	Weight (kg)
200/220V	230V			50Hz	60Hz	50Hz	60Hz		
GM0.2-20AS	GM0.2-20BS	0.2	20	75	90	22.5	18.6	0.74×10^{-3}	9.8
GM0.2-25AS	GM0.2-25BS		25	60	72	27.4	23.5		
GM0.2-30AS	GM0.2-30BS		30	50	60	33.3	27.4		
GM0.2-40AS	GM0.2-40BS		40	37.5	45	44.1	37.2		
GM0.2-50AS	GM0.2-50BS		50	30	36	55.9	46.1		
GM0.4-10AS	GM0.4-10BS	0.4	10	150	180	22.5	18.6	0.90×10^{-3}	10.5
GM0.4-15AS	GM0.4-15BS		15	100	120	33.3	27.4		
GM0.4-20AS	GM0.4-20BS		20	75	90	44.1	37.2		
GM0.4-25AS	GM0.4-25BS		25	60	72	55.9	46.1		
GM0.4-30AS	GM0.4-30BS		30	50	60	66.6	55.9		
GM0.4-40AS	GM0.4-40BS		40	37.5	45	84.3	70.6		
GM0.4-50AS	GM0.4-50BS		50	30	36	106.4	88.2		

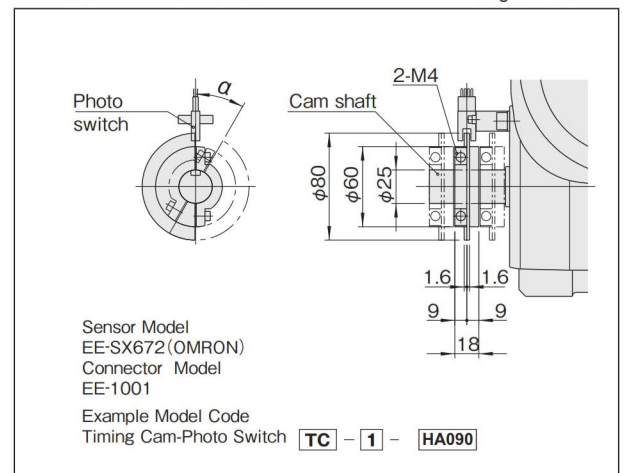
Torque limiter mounting specifications (option)

Figure HA090-3



Timing cam-Photo switch

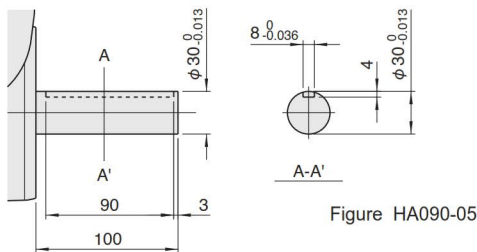
Figure HA090-4



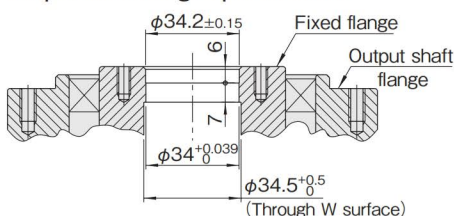
Precautions

- The dimension drawing (Figure HA090-1, HA090-2) shows the standard mounting position for the geared motor.
- Model HA090 can be equipped with 0.2kW and 0.4kW motor. Note, when using the 0.4kW motor, the motor will protrude beyond the indexer flange.
- Model HA090 can be equipped with torque limiter T09B.
- Up to 3 sets of timing cams and photo switches can be added as necessary.
- The timing cam can be freely adjusted to any period (α) below 180°.

Standard input shaft (T surface side)



Output fixed flange specifications



Locations of oil plug, etc., and oil capacity

Figure HA090-7

Mounting position	1	2	5
Location			
Oil capacity (ℓ)	0.5	0.9	1.0

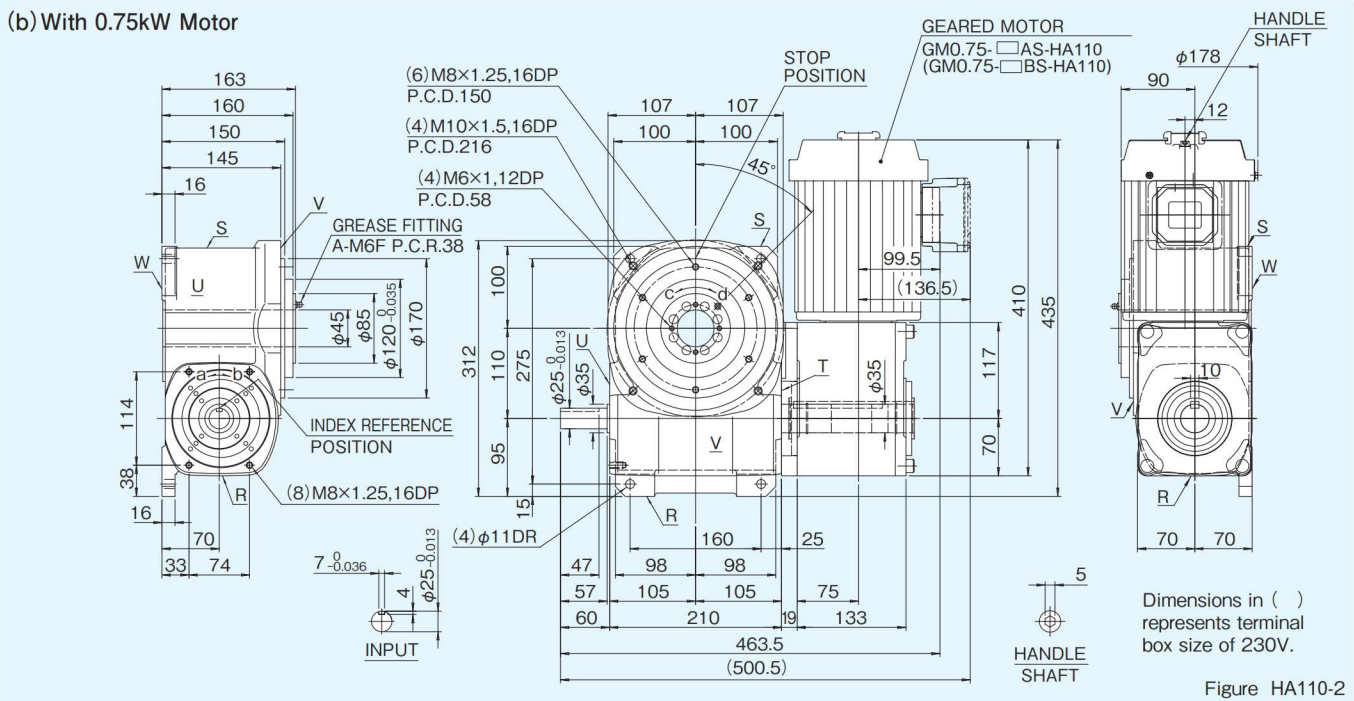
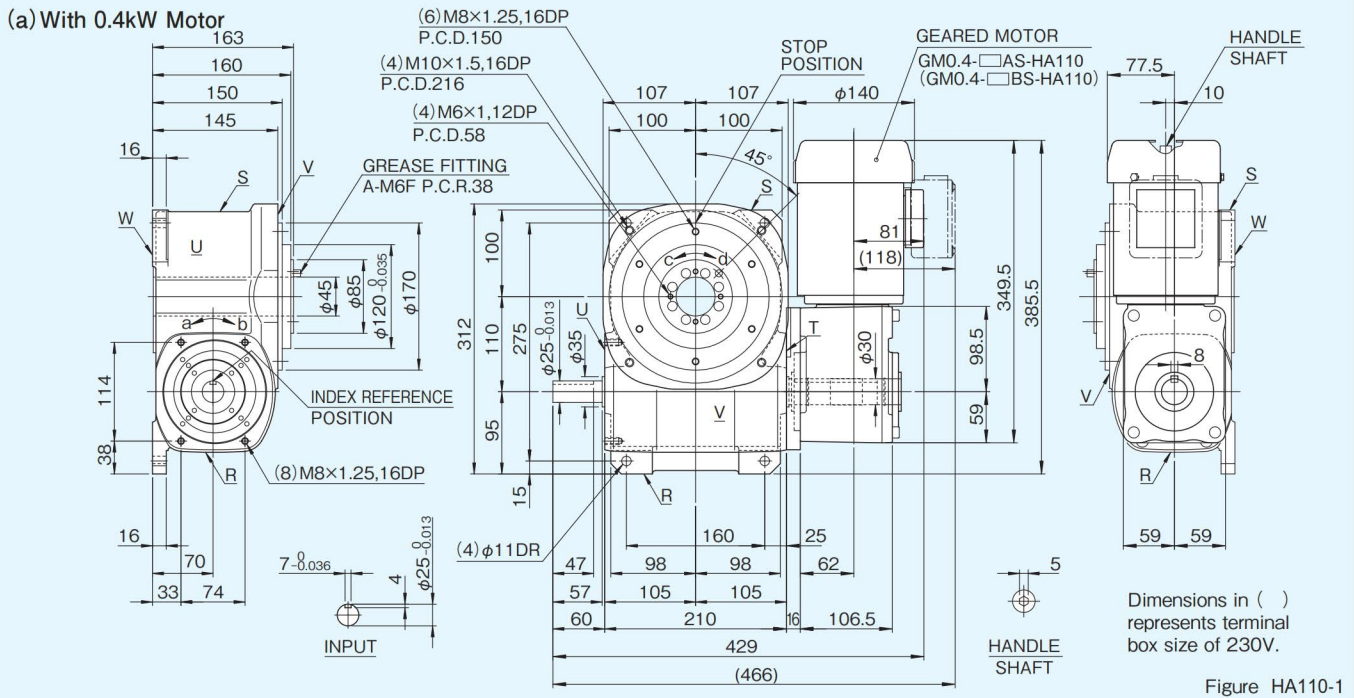
Precautions

- Each point indicated in the mounting positions shown in Figure HA090-7 represents (starting at top) the oil plug (PT3/8), oil level (VA-01), and drain (PT3/8).
- The mounting positions correspond to code i for the indexing drives.
- The oil capacities indicated in Figure HA090-7 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

HA110

HA110 Dimensions

(Unit : mm)



Specifications

Table HA110-1

Item	Symbol	Unit	Value	Item	Symbol	Unit	Value	Item	Symbol	Unit	Value
Output allowable axial load	P_1	N	6800	Input allowable axial load	P_4	N	3000	Indexing accuracy (1 DWELL)		sec	±30
Output allowable radial load	P_2	N	3400	Input maximum repetitious bending force	P_5	N	3500	Indexing accuracy (2 DWELL)		sec	±60
Output static torque	T_s	N·m	Refer to Torque Capacity Table	Input maximum repetitious allowable torque	P_6	N·m	294	Repetitive accuracy		sec	30
Output torsional rigidity	K_1	$\frac{N \cdot m}{rad}$	4.43×10^5	Input torsional rigidity	K_2	$\frac{N \cdot m}{rad}$	3.98×10^4	Product weight (Index body)		kg	42
Output inertia	J_o	$kg \cdot m^2$	3.47×10^{-2}	Input inertia	J_c	$kg \cdot m^2$	6.0×10^{-3}				
Output allowable bending moment	P_3	N·m	147								

Note: Input inertia: J is calculated in dwell.

1N·m=0.102kgf·m

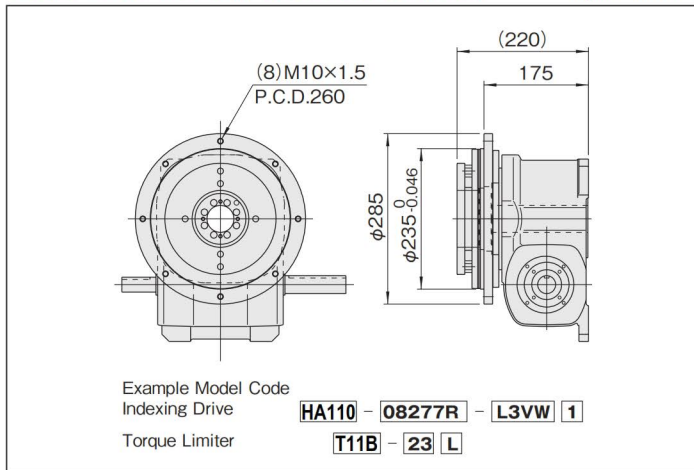
Specifications of geared motor (depends on brand of motor)

Table HA110-2

Code		Motor Power (kW)	Actual Gear Ratio (i)	Output Shaft Speed N_M (rpm)		Output Allowable Torque T_R (N·m)		Moment of inertia J_M (kg·m ²)	Weight (kg)
200/220V	230V			50Hz	60Hz	50Hz	60Hz		
GM0.4-20AS	GM0.4-20BS	0.4	20	75	90	44.1	37.2	0.90×10^{-3}	10.5
GM0.4-25AS	GM0.4-25BS		25	60	72	55.9	46.1		
GM0.4-30AS	GM0.4-30BS		30	50	60	66.6	55.9		
GM0.4-40AS	GM0.4-40BS		40	37.5	45	84.3	70.6		
GM0.4-50AS	GM0.4-50BS		50	30	36	106.0	88.2		
GM0.75-10AS	GM0.75-10BS	0.75	10	150	180	42.1	34.3	1.83×10^{-3}	24
GM0.75-15AS	GM0.75-15BS		15	100	120	62.7	51.9		
GM0.75-20AS	GM0.75-20BS		20	75	90	83.3	69.6		
GM0.75-25AS	GM0.75-25BS		25	60	72	104	87.2		
GM0.75-30AS	GM0.75-30BS		30	50	60	125	104		
GM0.75-40AS	GM0.75-40BS		40	37.5	45	159	132		
GM0.75-50AS	GM0.75-50BS		50	30	36	198	165		

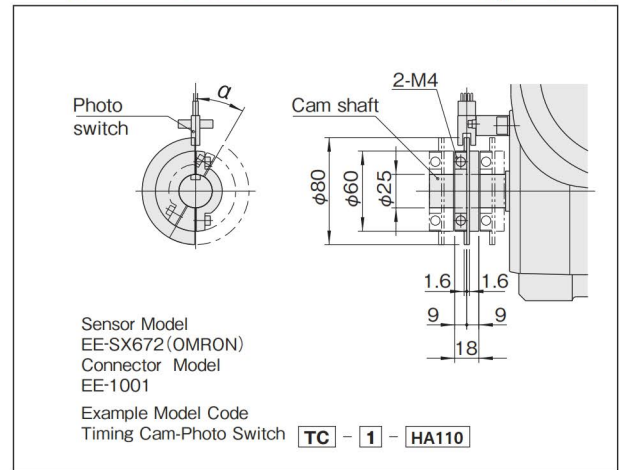
Torque limiter mounting specifications (option)

Figure HA-110-3



Timing cam-Photo switch

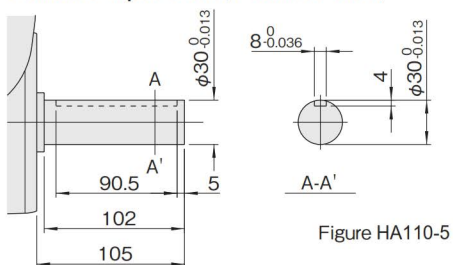
Figure HA110-4



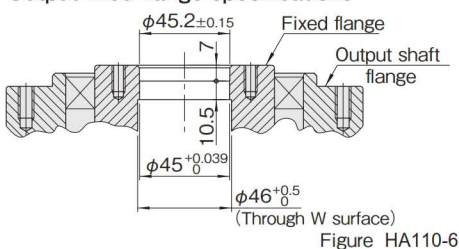
Precautions

- The dimension drawing(Figure HA110-1, HA110-2) shows the standard mounting position for geared motor.
- Model HA110 can be equipped with 0.4kW and 0.75kW motor. Exchange is not permitted after purchase because of different hollow size of geared motor.
- When using the 0.75kW motor, the motor will protrude beyond the indexer flange, and geared motor's bottom surface will also protrude beyond Index W surface.
- Model HA110 can be equipped with torque limiter T11B.
- Up to 3 sets of timing cams and photo switches can be added as necessary.
- The timing cam can be freely adjusted to any period(α)below 180°.

Standard input shaft (T surface side)



Output fixed flange specifications



Locations of oil plug, etc., and oil capacity

Figure HA110-7

Mounting position	1	2	5
Location			
Oil capacity(ℓ)	0.8	1.4	1.6

Precautions

- Each point indicated in the mounting positions shown in Figure HA110-7 represents (starting at top) the oil plug (PT1/2), oil level (VA), and drain (PT1/2).
- The mounting positions correspond to code i for the indexing drives.
- The oil capacities indicated in Figure HA110-7 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

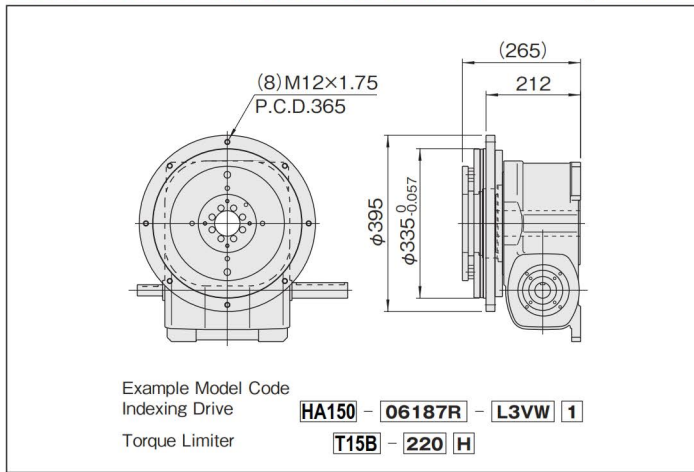
Specifications of geared motor (depends on brand of motor)

Table HA150-2

Code		Motor Power (kW)	Actual Gear Ratio (i)	Output Shaft Speed N_M (rpm)		Output Allowable Torque T_R (N·m)		Moment of inertia J_M (kg·m ²)	Weight (kg)
200/220V	230V			50Hz	60Hz	50Hz	60Hz		
GM0.75-20AS	GM0.75-20BS	0.75	20	75	90	83.3	69.6	1.83×10^{-3}	24
GM0.75-25AS	GM0.75-25BS		25	60	72	104	87.2		
GM0.75-30AS	GM0.75-30BS		30	50	60	125	104		
GM0.75-40AS	GM0.75-40BS		40	37.5	45	159	132		
GM0.75-50AS	GM0.75-50BS		50	30	36	198	165		
GM1.5-10AS	GM1.5-10BS	1.5	10	150	180	83.3	69.6	6.07×10^{-3}	36
GM1.5-15AS	GM1.5-15BS		15	100	120	124	104		
GM1.5-20AS	GM1.5-20BS		20	75	90	166	138		
GM1.5-25AS	GM1.5-25BS		25	60	72	208	173		
GM1.5-30AS	GM1.5-30BS		30	50	60	249	208		
GM1.5-40AS	GM1.5-40BS		40	37.5	45	317	264		
GM1.5-50AS	GM1.5-50BS	50	30	36	396	330			

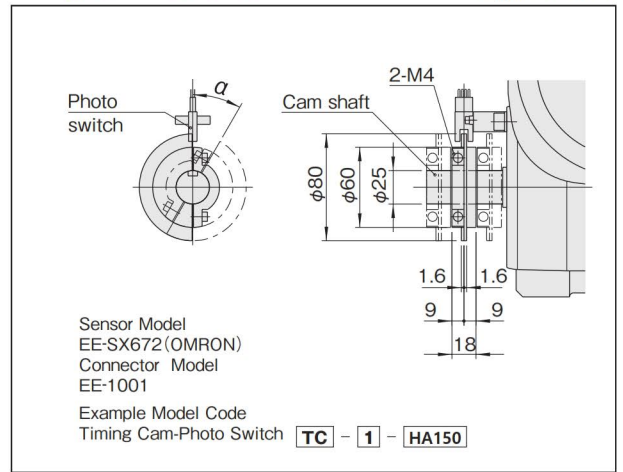
Torque limiter mounting specifications (option)

Figure HA150-3



Timing cam-Photo switch

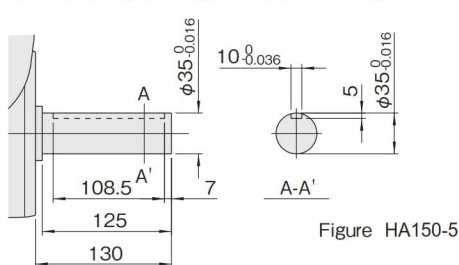
Figure HA150-4



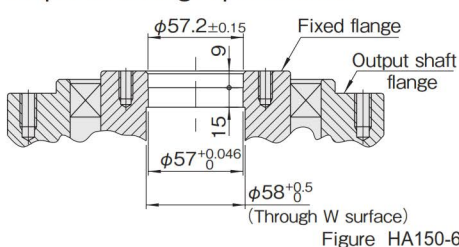
Precautions

- The dimension drawing (Figure HA150-1, HA150-2) shows the standard mounting position for geared motor.
- Model HA150 can be equipped with 0.75kW and 1.5kW motor. Exchange is not permitted after purchase because of different hollow size of geared motor. 2.2kW motor is also available as special instructions.
- When using the 1.5kW motor, the motor will protrude beyond the indexer flange, and geared motor's bottom surface will also protrude beyond Index W surface.
- Model HA150 can be equipped with torque limiter T15B.
- Up to 3 sets of timing cams and photo switches can be added as necessary.
- The timing cam can be freely adjusted to any period [α] below 180°.

Standard input shaft (T surface side)



Output fixed flange specifications



Locations of oil plug, etc., and oil capacity

Figure HA150-7

Mounting position	1	2	5
Location			
Oil capacity (ℓ)	2.2	3	3.3

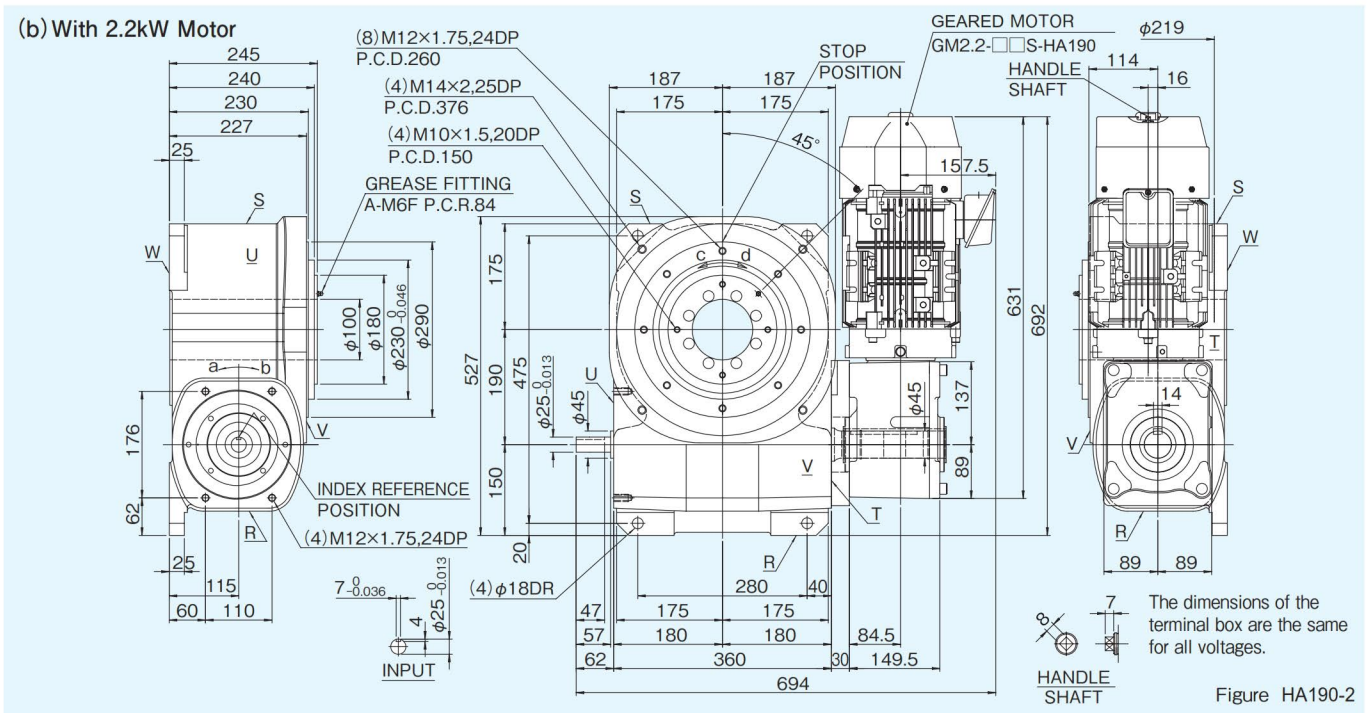
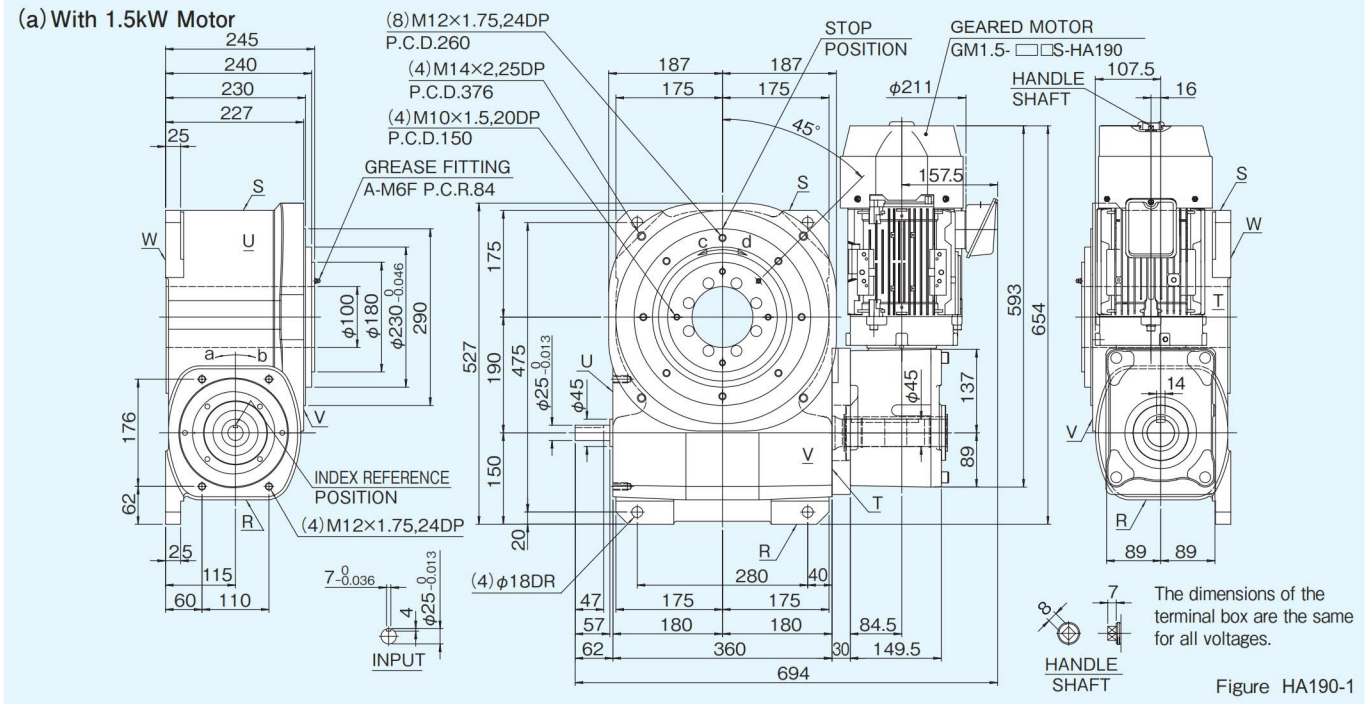
Precautions

- Each point indicated in the mounting positions shown in Figure HA150-7 represents (starting at top) the oil plug (PT1/2), oil level (VA), and drain (PT1/2).
- The mounting positions correspond to code i for the indexing drives.
- The oil capacities indicated in Figure HA150-7 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

HA190

HA190 Dimensions

[Unit : mm]



Specifications

Table HA190-1

Item	Symbol	Unit	Value	Item	Symbol	Unit	Value	Item	Symbol	Unit	Value
Output allowable axial load	P_1	N	18000	Input allowable axial load	P_4	N	5000	Indexing accuracy (1 DWELL)		sec	± 30
Output allowable radial load	P_2	N	9000	Input maximum repetitive bending force	P_5	N	5000	Indexing accuracy (2 DWELL)		sec	± 60
Output static torque	T_s	N·m	Refer to Torque Capacity Table	Input maximum repetitive allowable torque	P_6	N·m	600	Repetitive accuracy		sec	30
Output torsional rigidity	K_1	$\frac{N \cdot m}{rad}$	3.5×10^6	Input torsional rigidity	K_2	$\frac{N \cdot m}{rad}$	8.4×10^4	Product weight (Index body)		kg	180
Output inertia	J_o	$kg \cdot m^2$	0.549	Input inertia	J_c	$kg \cdot m^2$	0.105				
Output allowable bending moment	P_3	N·m	600								

Note: Input inertia: J is calculated in dwell.

1N·m=0.102kgf·m

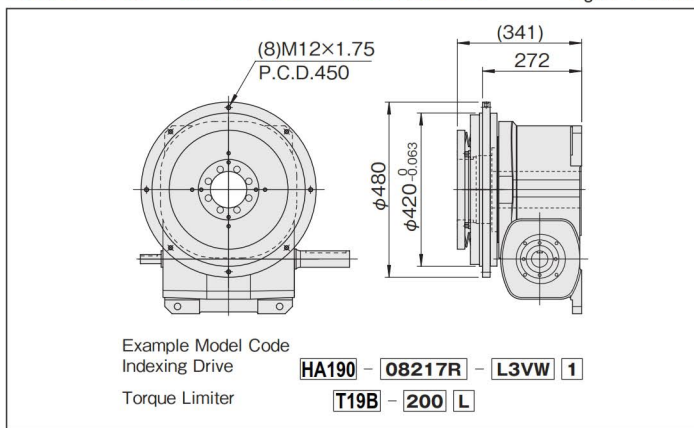
Specifications of geared motor (depends on brand of motor)

Table HA190-2

Code		Motor Power (kW)	Actual Gear Ratio (i)	Output Shaft Speed N _M (rpm)		Output Allowable Torque T _R (N·m)		Moment of inertia J _M (kg·m ²)	Weight (kg)
200/220V	230V			50Hz	60Hz	50Hz	60Hz		
GM1.5-20AS	GM1.5-20BS	1.5	20	75	90	166	138	6.07×10 ⁻³	36
GM1.5-25AS	GM1.5-25BS		25	60	72	208	173		
GM1.5-30AS	GM1.5-30BS		30	50	60	249	208		
GM1.5-40AS	GM1.5-40BS		40	37.5	45	317	264		
GM1.5-50AS	GM1.5-50BS		50	30	36	396	330		
GM2.2-25AS	GM2.2-10BS	2.2	10	150	180	122	102	10.2×10 ⁻³	45
GM2.2-15AS	GM2.2-15BS		15	100	120	182	152		
GM2.2-20AS	GM2.2-20BS		20	75	90	244	203		
GM2.2-25AS	GM2.2-25BS		25	60	72	290	242		
GM2.2-30AS	GM2.2-30BS		30	50	60	349	290		
GM2.2-40AS	GM2.2-40BS		40	37.5	45	465	387		
GM2.2-50AS	GM2.2-50BS	50	30	36	581	484			

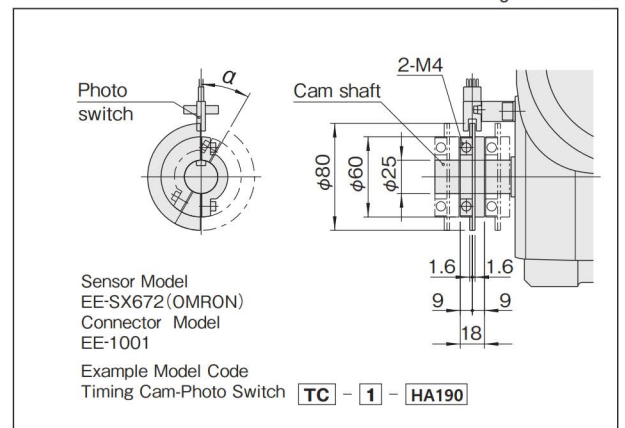
Torque limiter mounting specifications (option)

Figure HA190-3



Timing cam-Photo switch

Figure HA190-4



Precautions

- The dimension drawing(Figure HA190-1, HA190-2) shows the standard mounting position for geared motor.
- Model HA190 can be equipped with 1.5kW and 2.2kW motor.
- Model HA190 can be equipped with torque limiter T19B.
- Up to 3 sets of timing cams and photo switches can be added as necessary.
- The timing cam can be freely adjusted to any period[α]below 180°.

Standard input shaft(T surface side)

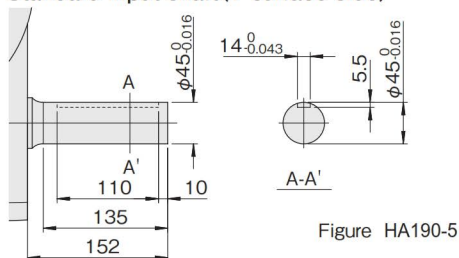


Figure HA190-5

Output fixed flange specifications

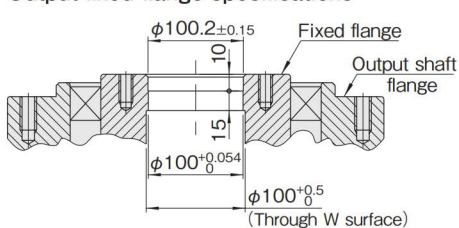


Figure HA190-6

Locations of oil plug, etc., and oil capacity

Figure HA190-7

Mounting position	1	2	5
Location			
Oil capacity(ℓ)	5	6	6.5

Precautions

- Each point indicated in the mounting positions shown in Figure HA190-7 represents (starting at top) the oil plug (PT3/4) , oil level (VB) , and drain (PT3/4) .
- The mounting positions correspond to code i for the indexing drives.
- The oil capacities indicated in Figure HA190-7 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

Specifications of geared motor (depends on brand of motor)

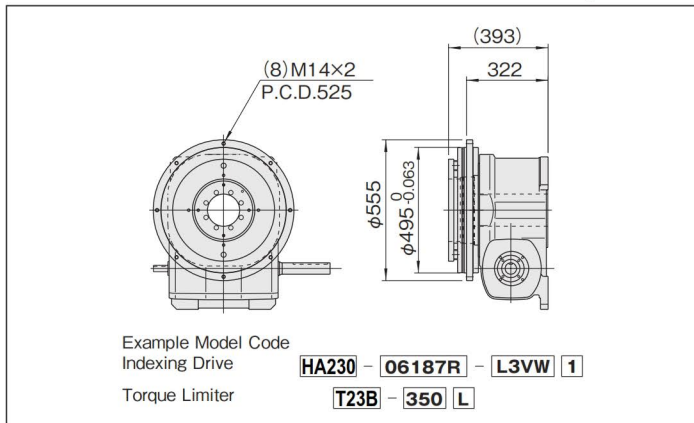
Table HA230-2

Code		Motor Power (kW)	Actual Gear Ratio (i)	Output Shaft Speed N _M (rpm)		Output Allowable Torque T _R (N·m)		Moment of inertia J _M (kg·m ²)	Weight (kg)
200/220V	230V			50Hz	60Hz	50Hz	60Hz		
GM2.2-20.37AS	GM2.2-20.37BS	2.2	20.37	69	82	275	230	11.2×10 ⁻³	60
GM2.2-23.33AS	GM2.2-23.33BS		23.33	60	72	295	250		
GM2.2-26.93AS	GM2.2-26.93BS		26.93	52	62	340	285		
GM2.2-29.63AS	GM2.2-29.63BS		29.63	47	57	375	315		
GM2.2-34.80AS	GM2.2-34.80BS		34.80	40	48	435	365		
GM2.2-36.85AS	GM2.2-36.85BS		36.85	38	46	460	385		
GM2.2-41.89AS	GM2.2-41.89BS		41.89	34	40	520	440		
GM2.2-46.40AS	GM2.2-46.40BS		46.40	30	36	570	485		
GM3.7-10AS	GM3.7-10BS	3.7	10	150	180	205	171	21.0×10 ⁻³	101
GM3.7-15AS	GM3.7-15BS		15	100	120	308	256		
GM3.7-20AS	GM3.7-20BS		20	75	90	410	341		
GM3.7-25AS	GM3.7-25BS		25	60	72	489	407		
GM3.7-30AS	GM3.7-30BS		30	50	60	586	489		
GM3.7-40AS	GM3.7-40BS		40	37.5	45	782	652		
GM3.7-50AS	GM3.7-50BS		50	30	36	977	814		

※2.2-kW 230-VAC motor (GM2.2-□□BS-23AD-01) is only available for 60 Hz.

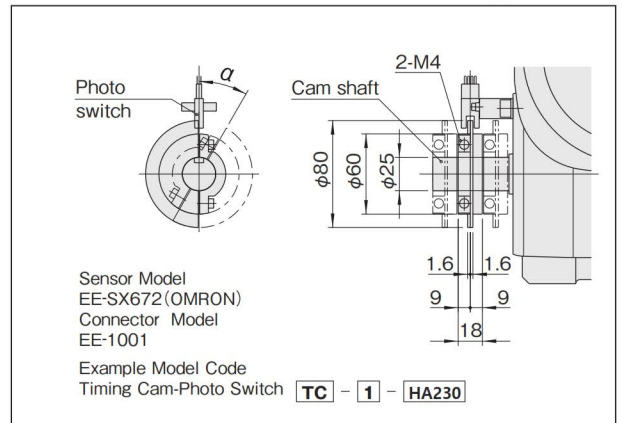
Torque limiter mounting specifications (option)

Figure HA230-3



Timing cam-Photo switch

Figure HA230-4



Precautions

- The dimension drawing (Figure HA230-1, HA230-2) shows the standard mounting position for geared motor.
- Model HA230 can be equipped with 2.2kW and 3.7kW motor. Exchange is not permitted after purchase because of different hollow size of geared motor. 5.5kW motor is also available as special instructions.
- When using the 3.7kW motor, reducer box will protrude beyond the indexer flange.
- Model HA230 can be equipped with torque limiter T23B.
- Up to 3 sets of timing cams and photo switches can be added as necessary.
- The timing cam can be freely adjusted to any period (α) below 180°.

Standard input shaft (T surface side)

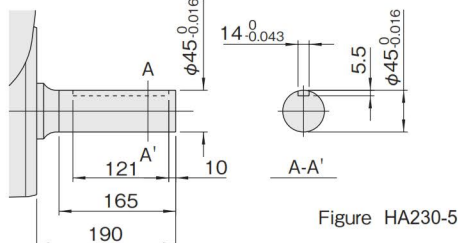


Figure HA230-5

Output fixed flange specifications

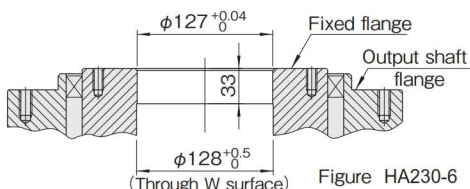


Figure HA230-6

Locations of oil plug, etc., and oil capacity

Figure HA230-7

Mounting position	1	2	5
Location			
Oil capacity (ℓ)	10	12	13

Precautions

- Each point indicated in the mounting positions shown in Figure HA230-7 represents (starting at top) the oil plug (PT3/4), oil level (VB), and drain (PT3/4).
- The mounting positions correspond to code i for the indexing drives.
- The oil capacities indicated in Figure HA230-7 are given in general figures and will differ according to the profile of the cam and the number of cam followers.