

7AD

7AD Dimensions

[Unit : mm]

(a) With 0.1kW Motor

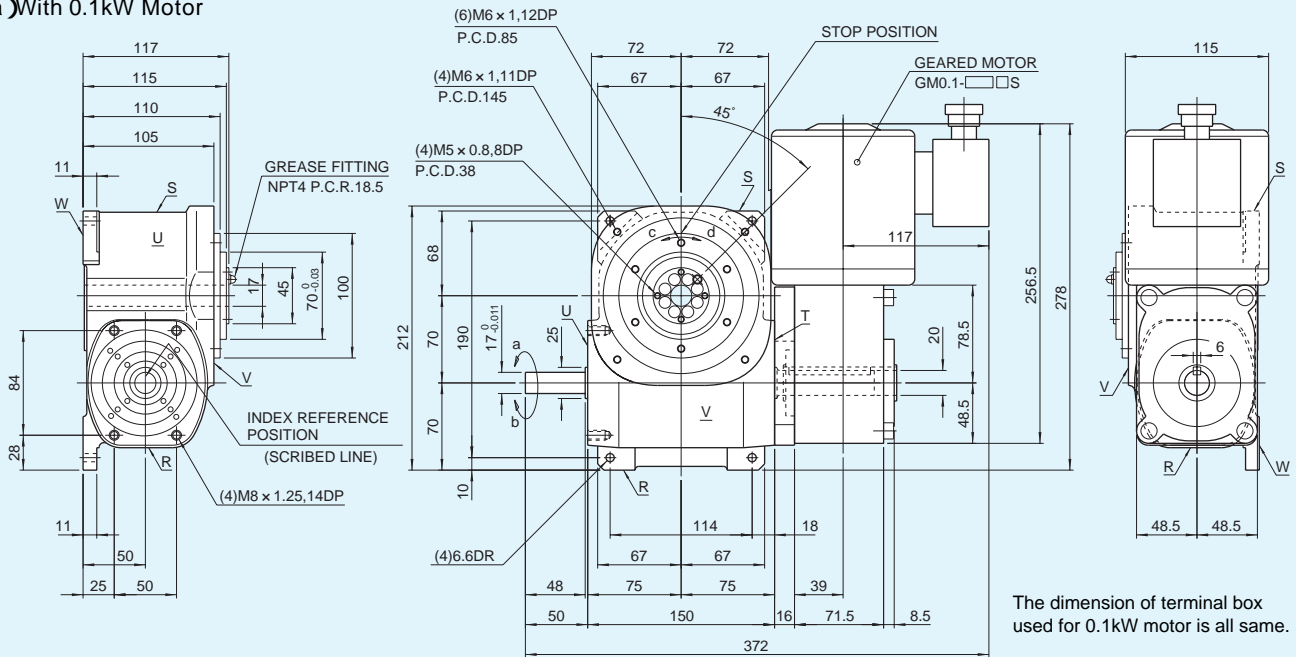


Figure 7AD-1

(b) With 0.2kW Motor

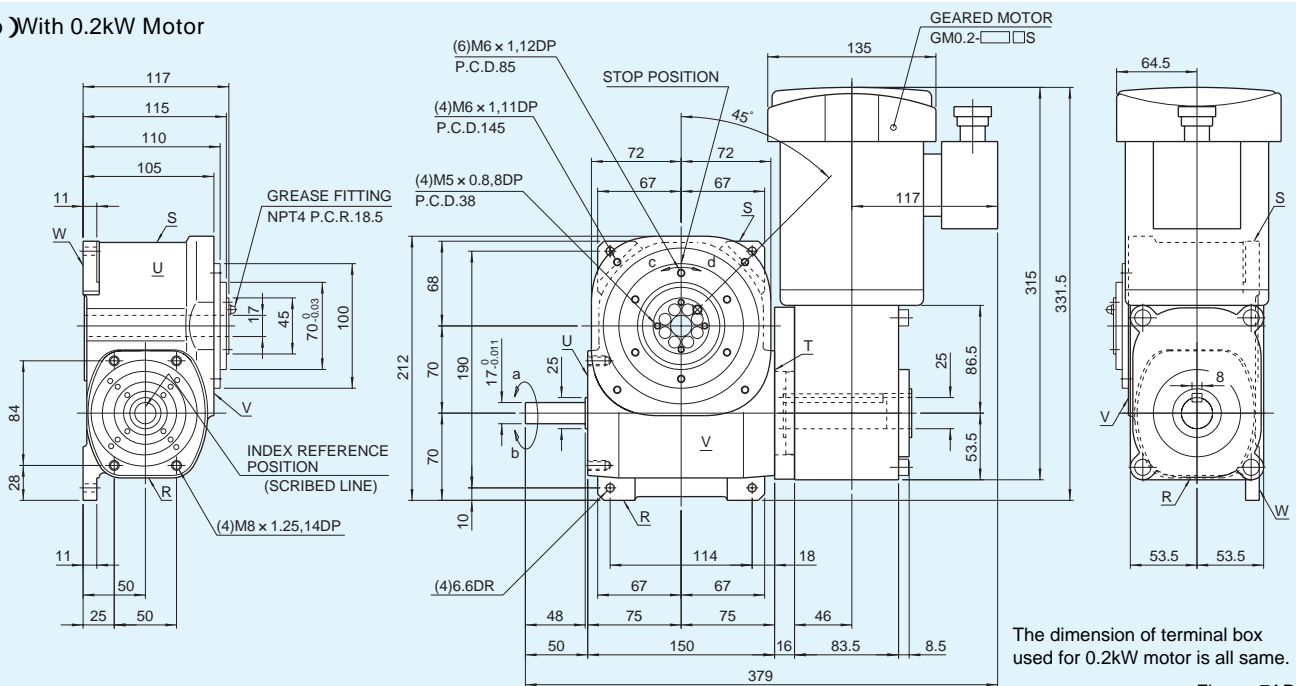


Figure 7AD-2

Dynamic-rated output torque Top of 7AD at 50 Index/min (N·m) Table 7AD-1

S	120	150	180	210	240	270	300	330
2								32.4
3						40.2	83.5	
4		[SMCV-3 Curve]			117.7	120.3		
5				86.2	88.2	84.6		
6			173.2	169.6	157.3	155.0		
8		122.3	210.4	195.7	191.7	187.6		
10	88.2	90.9	89.0	125.8	127.5	128.7		
12	76.2	92.5	91.1	92.5	93.4	94.1	[SMS-3 Curve]	
15	40.9	38.9	36.4	72.9	70.6	68.5		
16	42.1	40.0	37.4	36.1	34.9	33.9		

[2 Dwell drives] (N·m)

Table 7AD-2

S	180	210	240	270
16		209.9	214.0	217.1
20	89.0	90.8	92.1	128.7
24	83.7	81.2	78.8	94.1
32	45.9	44.5	43.0	41.7

Note:

Dynamic-rated output torque is calculated based on a B10 life of 8,000 hours under standard operation.

2 Dwell drives will index and dwell two times per one rotation of the camshaft.

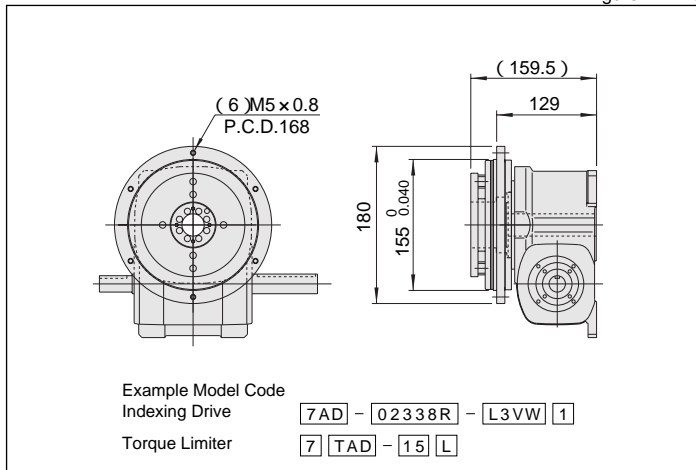
Specifications of geared motor

Table 7AD-3

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-7AD	GM0.1-20BS-7AD	0.1	20	75	90	11	8.6	4.75×10 ⁻⁴	6
GM0.1-25AS-7AD	GM0.1-25BS-7AD		25	60	72	13	11		
GM0.1-30AS-7AD	GM0.1-30BS-7AD		30	50	60	16	13		
GM0.1-40AS-7AD	GM0.1-40BS-7AD		40	37.5	45	21	18		
GM0.1-50AS-7AD	GM0.1-50BS-7AD		50	30	36	25	22		
GM0.2-10AS-7AD	GM0.2-10BS-7AD	0.2	10	150	180	11	9.2	7.25×10 ⁻⁴	7.5
GM0.2-15AS-7AD	GM0.2-15BS-7AD		15	100	120	17	14		
GM0.2-20AS-7AD	GM0.2-20BS-7AD		20	75	90	23	19		
GM0.2-25AS-7AD	GM0.2-25BS-7AD		25	60	72	27	24		
GM0.2-30AS-7AD	GM0.2-30BS-7AD		30	50	60	33	27		
GM0.2-40AS-7AD	GM0.2-40BS-7AD		40	37.5	45	44	37		
GM0.2-50AS-7AD	GM0.2-50BS-7AD		50	30	36	55	46		

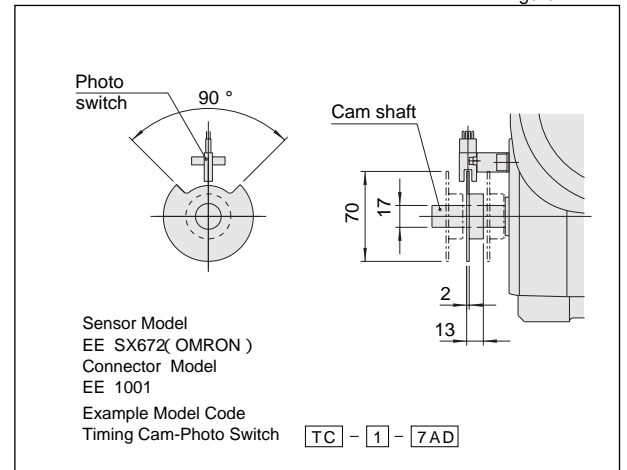
Torque limiter mounting specifications(option)

Figure 7AD-3



Timing cam Photo switch

Figure 7AD-4



Precautions

The dimension drawing(Figure 7AD-1, 7AD-2) shows the standard mounting position for geared motor.
 Model 7AD 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 7AD can be equipped with torque limiter 7TAD.
 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)

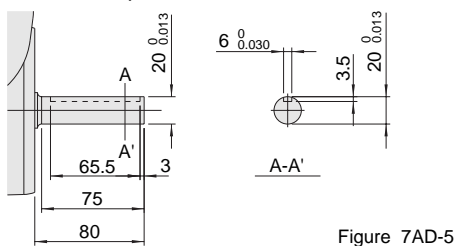
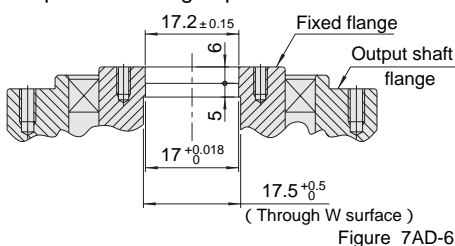


Figure 7AD-5

Output fixed flange specifications



Locations of oil plug, etc., and oil capacity

Figure 7AD-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 7AD-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 7AD-7 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

9AD

9AD Dimensions

[Unit : mm]

(a) With 0.2kW Motor

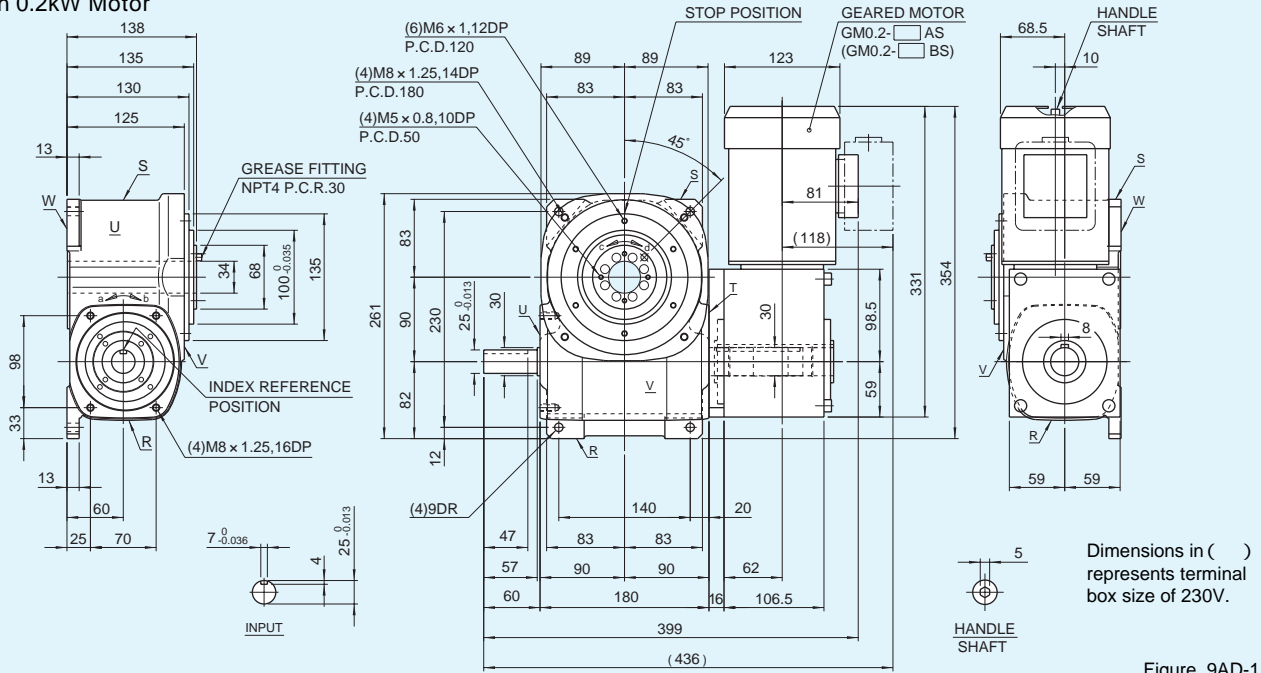


Figure 9AD-1

(b) With 0.4kW Motor

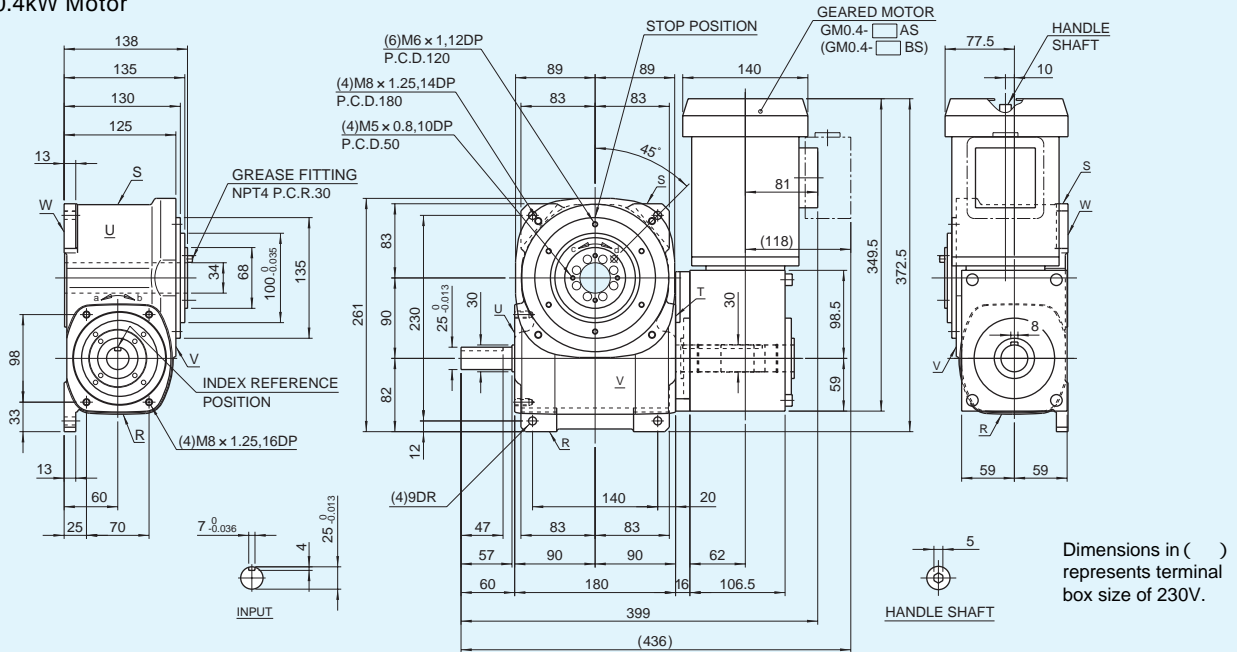


Figure 9AD-2

Dynamic-rated output torque Top of 9AD at 50 Index/min (N•m) Table 9AD-1

S	120	150	180	210	240	270	300	330
2								123.8
3						137.1	136.3	
4		[SMCV-3 Curve]			166.8	164.9		
5				174.7	171.9	178.4		
6			323.3	317.5	293.2	289.7		
8		260.7	396.3	367.4	360.7	353.8		
10	234.8	254.4	272.4	265.6	258.9	252.5		
12	291.7	279.5	260.3	252.5	245.2	238.6	[SMS-3 Curve]	
15	289.9	275.7	258.0	249.1	241.1	233.9		
16	298.2	283.1	265.3	255.8	247.4	239.9		

[2 Dwell drives] (N•m)

Table 9AD-2

S	180	210	240	270
16		285.9	280.3	435.6
20	335.3	327.0	318.7	310.9
24	320.5	310.9	301.9	293.7
32	323.3	315.0	304.6	295.4

Note:

Dynamic-rated output torque is calculated based on a B10 life of 8,000 hours under standard operation.

2 Dwell drives will index and dwell two times per one rotation of the camshaft.

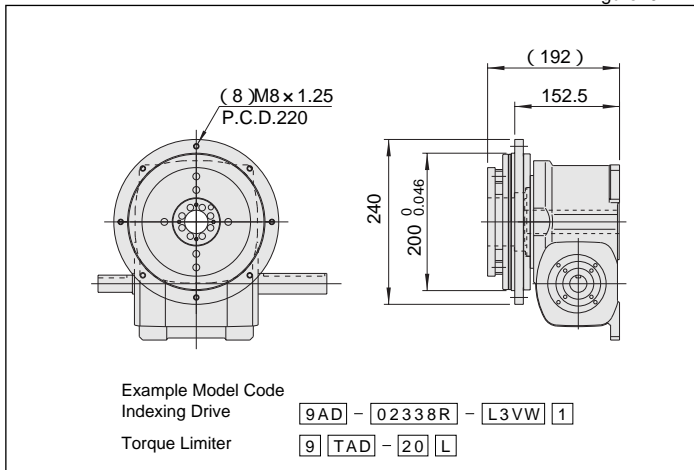
Specifications of geared motor

Table 9AD-3

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-9AD	GM0.2-20BS-9AD	0.2	20	75	90	22.5	18.6	0.74×10 ⁻³	9.8
GM0.2-25AS-9AD	GM0.2-25BS-9AD		25	60	72	27.4	23.5		
GM0.2-30AS-9AD	GM0.2-30BS-9AD		30	50	60	33.3	27.4		
GM0.2-40AS-9AD	GM0.2-40BS-9AD		40	37.5	45	44.1	37.2		
GM0.2-50AS-9AD	GM0.2-50BS-9AD		50	30	36	55.9	46.1		
GM0.4-10AS-9AD	GM0.4-10BS-9AD	0.4	10	150	180	22.5	18.6	0.90×10 ⁻³	10.5
GM0.4-15AS-9AD	GM0.4-15BS-9AD		15	100	120	33.3	27.4		
GM0.4-20AS-9AD	GM0.4-20BS-9AD		20	75	90	44.1	37.2		
GM0.4-25AS-9AD	GM0.4-25BS-9AD		25	60	72	55.9	46.1		
GM0.4-30AS-9AD	GM0.4-30BS-9AD		30	50	60	66.6	55.9		
GM0.4-40AS-9AD	GM0.4-40BS-9AD		40	37.5	45	84.3	70.6		
GM0.4-50AS-9AD	GM0.4-50BS-9AD	50	30	36	106.0	88.2			

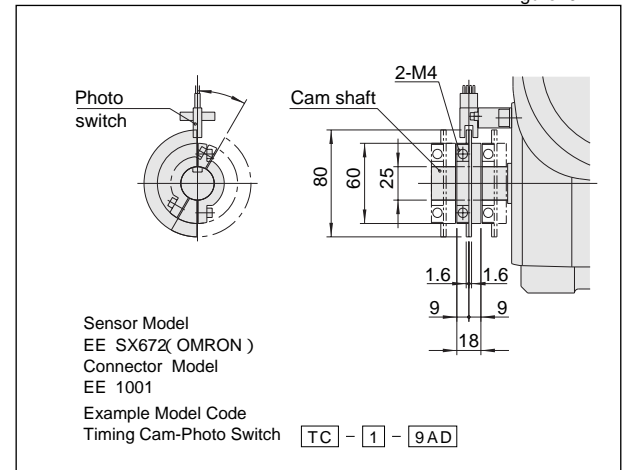
Torque limiter mounting specifications(option)

Figure 9AD-3



Timing cam Photo switch

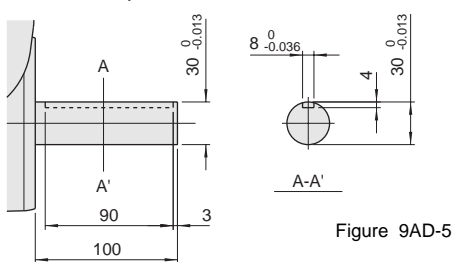
Figure 9AD-4



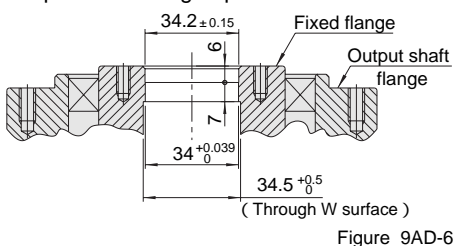
Precautions

- The dimension drawing (Figure 9AD-1, 9AD-2) shows the standard mounting position for the geared motor.
- Model 9AD 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 9AD can be equipped with torque limiter 9TAD.
- 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 () below 180°.

Standard input shaft(T surface side)



Output fixed flange specifications



Locations of oil plug, etc., and oil capacity

Figure 9AD-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 9AD-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 9AD-7 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

11AD

11AD Dimensions

[Unit : mm]

(a) With 0.4kW Motor

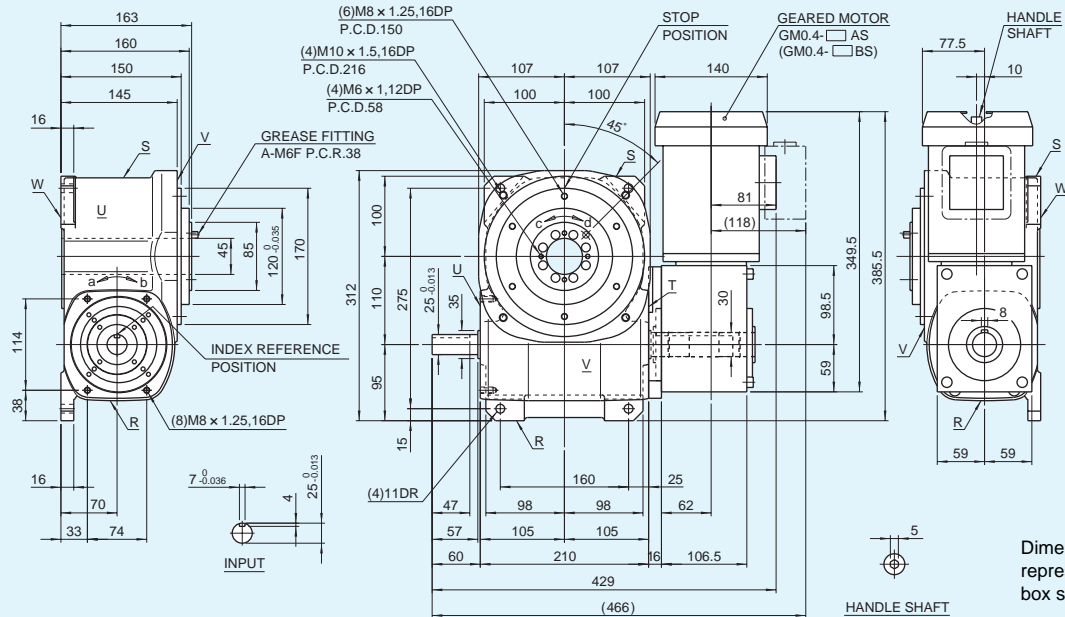


Figure 11AD-1

(b) With 0.75kW Motor

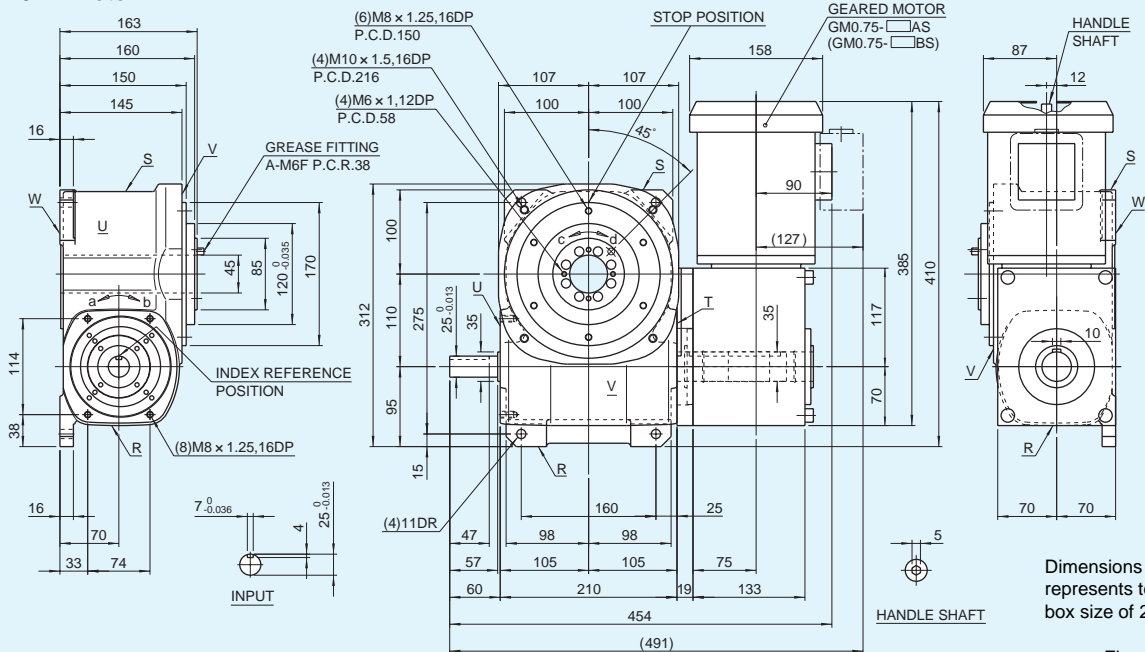


Figure 11AD-2

Dynamic-rated output torque Top of 11AD at 50 Index/min (N·m) Table 11AD-1

S	120	150	180	210	240	270	300	330
2								163.2
3						183.3	183.7	
4		[SMCV-3 Curve]			231.2	342.1		
5				276.1	274.4	370.0		
6			497.9	488.9	451.6	446.2		
8		596.2	581.6	565.7	555.4	544.7		
10	374.8	367.2	490.3	478.7	605.2	591.3		
12	607.7	615.5	568.0	555.9	543.4	498.6	[SMS-3 Curve]	
15	595.8	628.7	606.0	625.2	608.1	592.1		
16	606.2	636.6	615.7	635.8	626.2	609.2		

[2 Dwell drives] (N·m) Table 11AD-2

S	180	210	240	270
16		696.5	683.7	670.6
20	603.6	589.3	745.1	727.9
24	621.7	653.0	669.0	613.8
32	615.7	635.8	650.0	660.2

Note:
Dynamic-rated output torque is calculated based on a B10 life of 8,000 hours under standard operation.
2 Dwell drives will index and dwell two times per one rotation of the camshaft.

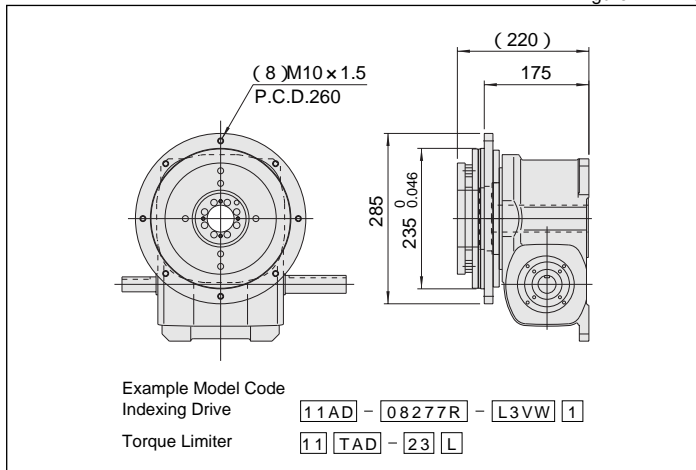
Specifications of geared motor

Table 11AD-3

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-11AD	GM0.4-20BS-11AD	0.4	20	75	90	44.1	37.2	0.90×10 ⁻³	10.5
GM0.4-25AS-11AD	GM0.4-25BS-11AD		25	60	72	55.9	46.1		
GM0.4-30AS-11AD	GM0.4-30BS-11AD		30	50	60	66.6	55.9		
GM0.4-40AS-11AD	GM0.4-40BS-11AD		40	37.5	45	84.3	70.6		
GM0.4-50AS-11AD	GM0.4-50BS-11AD		50	30	36	106.0	88.2		
GM0.75-10AS-11AD	GM0.75-10BS-11AD	0.75	10	150	180	42.1	34.3	1.37×10 ⁻³	18.5
GM0.75-15AS-11AD	GM0.75-15BS-11AD		15	100	120	62.7	51.9		
GM0.75-20AS-11AD	GM0.75-20BS-11AD		20	75	90	83.3	69.6		
GM0.75-25AS-11AD	GM0.75-25BS-11AD		25	60	72	104	87.2		
GM0.75-30AS-11AD	GM0.75-30BS-11AD		30	50	60	125	104		
GM0.75-40AS-11AD	GM0.75-40BS-11AD		40	37.5	45	159	132		
GM0.75-50AS-11AD	GM0.75-50BS-11AD		50	30	36	198	165		

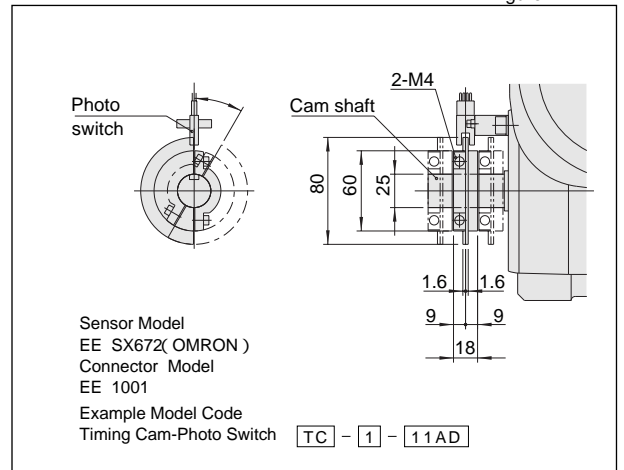
Torque limiter mounting specifications(option)

Figure 11AD-3



Timing cam Photo switch

Figure 11AD-4



Precautions

The dimension drawing(Figure 11AD-1, 11AD-2) shows the standard mounting position for geared motor.
 Model 11AD 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 11AD can be equipped with torque limiter 11TAD.
 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 []below 180°.

Standard input shaft(T surface side)

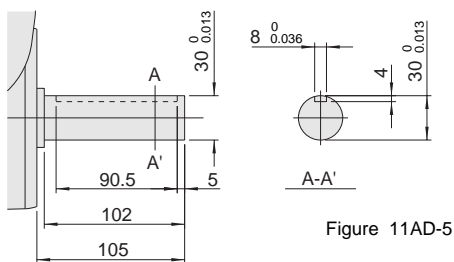


Figure 11AD-5

Output fixed flange specifications

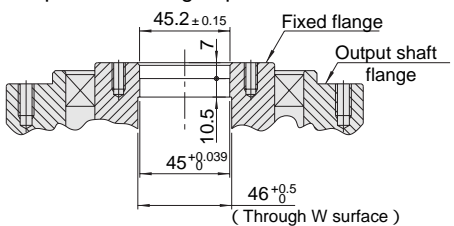


Figure 11AD-6

Locations of oil plug, etc., and oil capacity

Figure 11AD-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 11AD-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 11AD-7 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

15AD

15AD Dimensions

[Unit : mm]

(a) With 0.75kW Motor

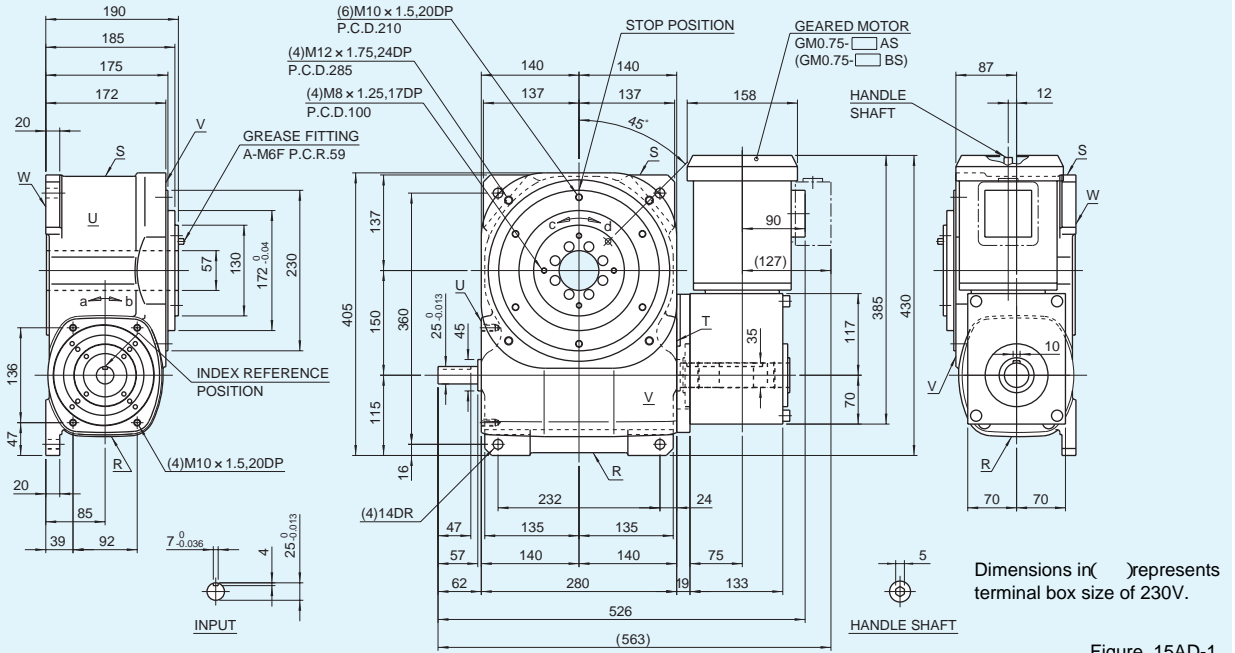


Figure 15AD-1

(b) With 1.5kW Motor

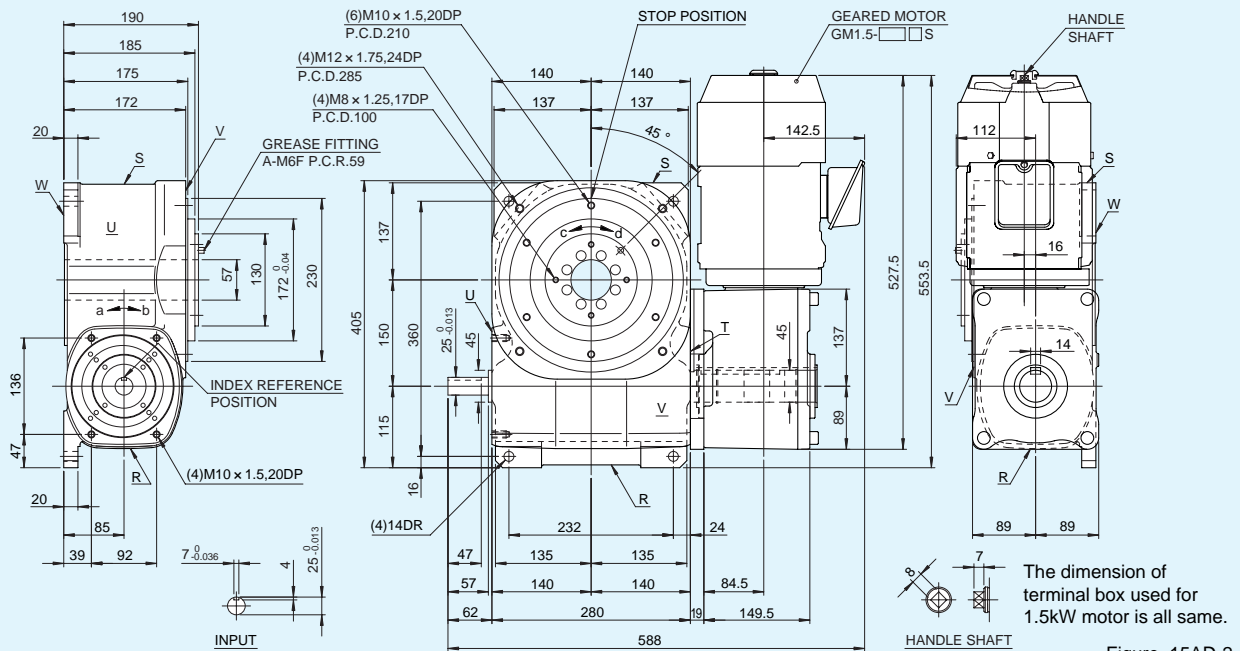


Figure 15AD-2

Dynamic-rated output torque Top of 15AD at 50 Index/min (N·m) Table 15AD-1

S	120	150	180	210	240	270	300	330
2								405.3
3						406.2	408.1	
4					592.8	590.4		
5				665.6	700.8	602.2		
6			1020.2	1437.2	1319.8	1308.4		
8		1003.6	1280.5	1670.4	1645.5	1618.4		
10	902.2	935.7	1077.7	1061.0	1347.9	1321.6		
12	1291.8	1251.0	1156.3	1129.9	1273.2	1244.3		
15	1305.5	1321.3	1229.6	1193.7	1160.0	1197.1		
16	1332.8	1413.1	1357.4	1411.0	1443.8	1160.6		

[2 Dwell drives] (N·m)

Table 15AD-2

S	180	210	240	270
16		1115.3	1431.2	1992.5
20	1245.6	1650.4	1659.5	1627.0
24	1423.6	1391.1	1358.4	1531.9
32	1357.4	1411.0	1449.4	1428.9

Note:

Dynamic-rated output torque is calculated based on a B10 life of 8,000 hours under standard operation.

2 Dwell drives will index and dwell two times per one rotation of the camshaft.

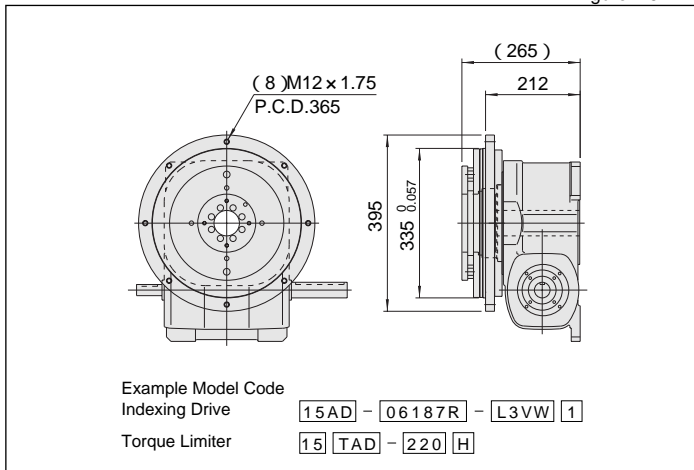
Specifications of geared motor

Table 15AD-3

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-15AD	GM0.75-20BS-15AD	0.75	20	75	90	83.3	69.6	1.37×10 ⁻³	18.5
GM0.75-25AS-15AD	GM0.75-25BS-15AD		25	60	72	104	87.2		
GM0.75-30AS-15AD	GM0.75-30BS-15AD		30	50	60	125	104		
GM0.75-40AS-15AD	GM0.75-40BS-15AD		40	37.5	45	159	132		
GM0.75-50AS-15AD	GM0.75-50BS-15AD		50	30	36	198	165		
GM1.5-10AS-15AD	GM1.5-10BS-15AD	1.5	10	150	180	83.3	69.6	3.41×10 ⁻³	29
GM1.5-15AS-15AD	GM1.5-15BS-15AD		15	100	120	124	104		
GM1.5-20AS-15AD	GM1.5-20BS-15AD		20	75	90	166	138		
GM1.5-25AS-15AD	GM1.5-25BS-15AD		25	60	72	208	173		
GM1.5-30AS-15AD	GM1.5-30BS-15AD		30	50	60	249	208		
GM1.5-40AS-15AD	GM1.5-40BS-15AD		40	37.5	45	317	264		
GM1.5-50AS-15AD	GM1.5-50BS-15AD		50	30	36	396	330		

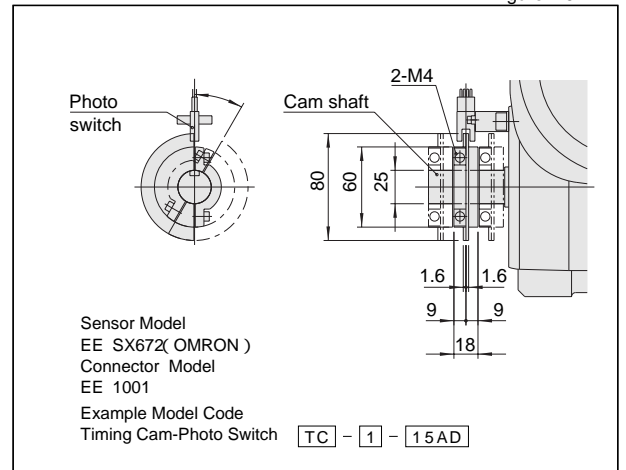
Torque limiter mounting specifications(option)

Figure 15AD-3



Timing cam Photo switch

Figure 15AD-4



Precautions

The dimension drawing(Figure 15AD-1, 15AD-2) shows the standard mounting position for geared motor.
Model 15AD 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 15AD can be equipped with torque limiter 15TAD.
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()below 180°.

Standard input shaft(T surface side)

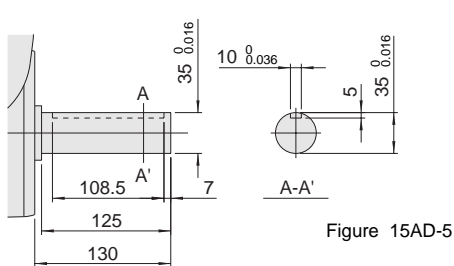


Figure 15AD-5

Output fixed flange specifications

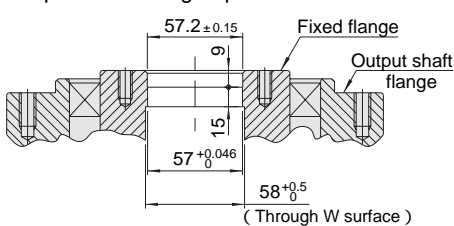


Figure 15AD-6

Locations of oil plug, etc., and oil capacity

Figure 15AD-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 15AD-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 15AD-7 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

19AD

19AD Dimensions

[Unit : mm]

(a) With 1.5kW Motor

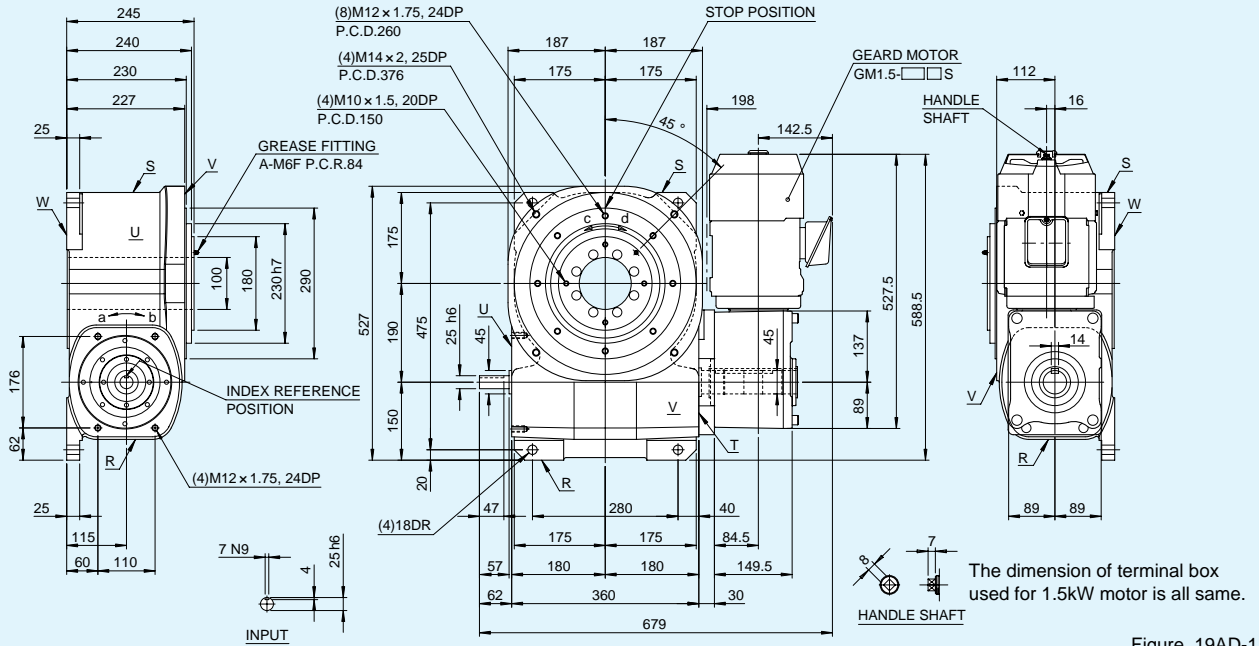


Figure 19AD-1

(b) With 2.2kW Motor

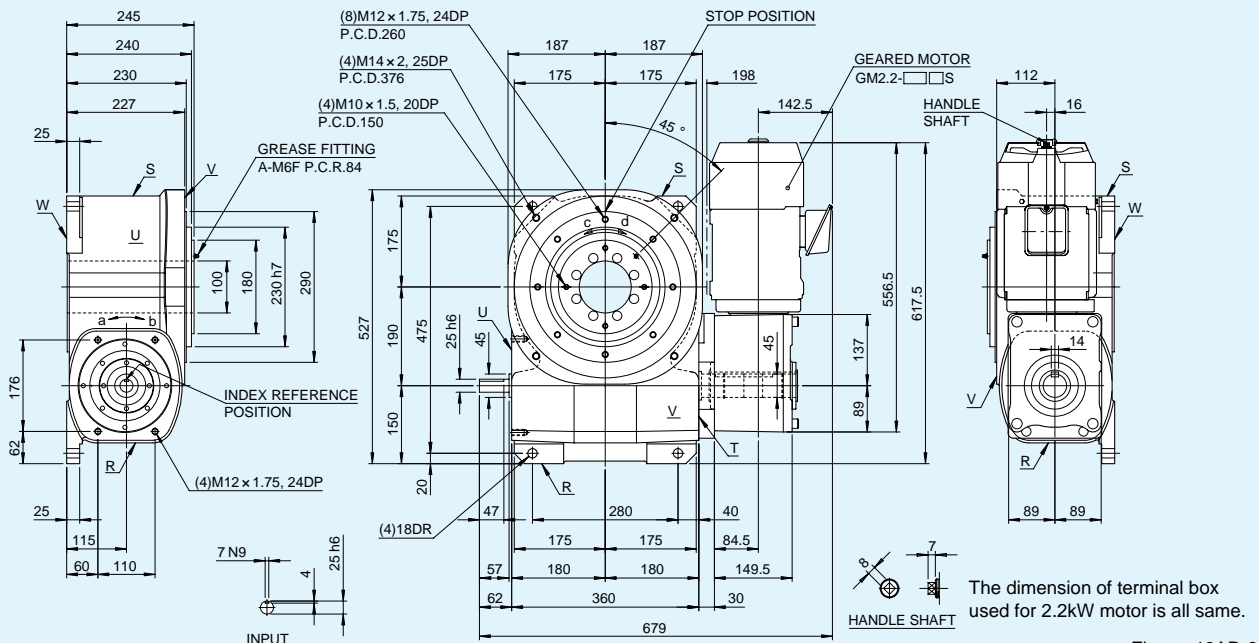


Figure 19AD-2

Dynamic-rated output torque Top of 19AD at 50 Index/min (N·m) Table 19AD-1

S	120	150	180	210	240	270	300	330
2								956.9
3						1211.5	1210.7	
4		[SMCV-3 Curve]			1611.0	1602.7		
5				1541.6	1522.8	1419.5		
6			2077.4	2912.5	2658.2	2644.6		
8		2172.9	2596.2	2389.6	3362.6	3317.7		
10	2080.2	2019.2	2324.9	2283.0	2725.5	2670.0		
12	2319.2	2232.4	2122.8	2070.3	2018.6	2415.9	[SMS-3 Curve]	
15	2671.3	2640.1	2450.1	2384.9	2322.1	2394.1		
16	2580.2	2724.1	2532.7	2460.9	2392.9	2329.8		

[2 Dwell drives] (N·m) Table 19AD-2

S	180	210	240	270
16		2414.8	2903.2	4084.6
20	2294.0	2810.8	3355.5	3287.2
24	2613.4	2548.8	2485.2	2974.4
32	2767.8	2866.2	2936.1	2868.3

Note:
Dynamic-rated output torque is calculated based on a B10 life of 8,000 hours under standard operation.
2 Dwell drives will index and dwell two times per one rotation of the camshaft.

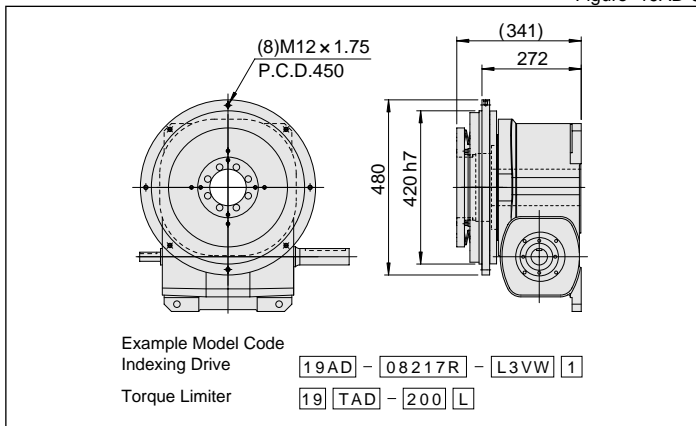
Specifications of geared motor

Table 19AD-3

Code		Motor Power (kW)	Actual Gear Ratio (i)	Output Shaft Speed Nm(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-19AD	GM1.5-20BS-19AD	1.5	20	75	90	166	138	3.41×10 ⁻³	29
GM1.5-25AS-19AD	GM1.5-25BS-19AD		25	60	72	208	173		
GM1.5-30AS-19AD	GM1.5-30BS-19AD		30	50	60	249	208		
GM1.5-40AS-19AD	GM1.5-40BS-19AD		40	37.5	45	317	264		
GM1.5-50AS-19AD	GM1.5-50BS-19AD		50	30	36	396	330		
GM2.2-25AS-19AD	GM2.2-10BS-19AD	2.2	10	150	180	122	102	4.79×10 ⁻³	34
GM2.2-15AS-19AD	GM2.2-15BS-19AD		15	100	120	182	152		
GM2.2-20AS-19AD	GM2.2-20BS-19AD		20	75	90	244	203		
GM2.2-25AS-19AD	GM2.2-25BS-19AD		25	60	72	290	242		
GM2.2-30AS-19AD	GM2.2-30BS-19AD		30	50	60	349	290		
GM2.2-40AS-19AD	GM2.2-40BS-19AD		40	37.5	45	465	387		
GM2.2-50AS-19AD	GM2.2-50BS-19AD	50	30	36	581	484			

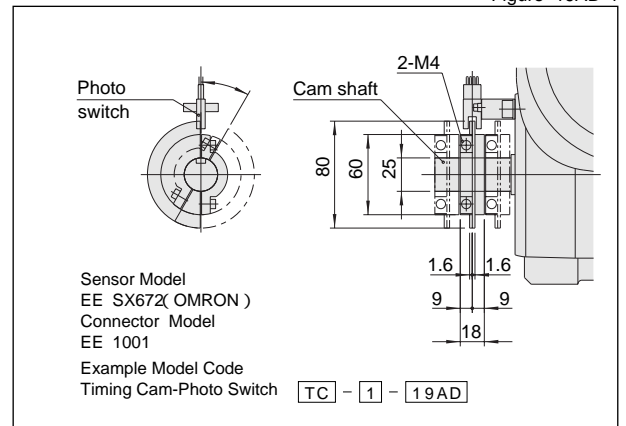
Torque limiter mounting specifications(option)

Figure 19AD-3



Timing cam Photo switch

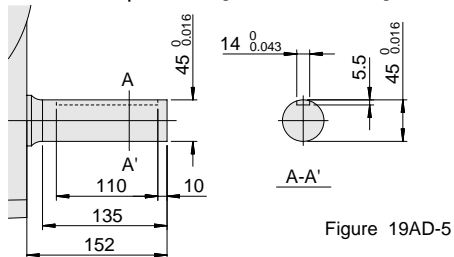
Figure 19AD-4



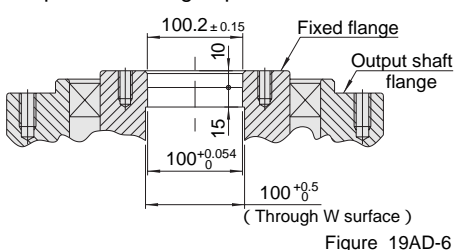
Precautions

- The dimension drawing(Figure 19AD-1, 19AD-2) shows the standard mounting position for geared motor.
- Model 19AD can be equipped with 1.5kW and 2.2kW motor.
- Model 19AD can be equipped with torque limiter 19TAD.
- 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 ()below 180°.

Standard input shaft(T surface side)



Output fixed flange specifications



Locations of oil plug, etc., and oil capacity

Figure 19AD-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 19AD-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 19AD-7 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

23AD

23AD Dimensions

[Unit : mm]

(a) With 2.2kW Motor

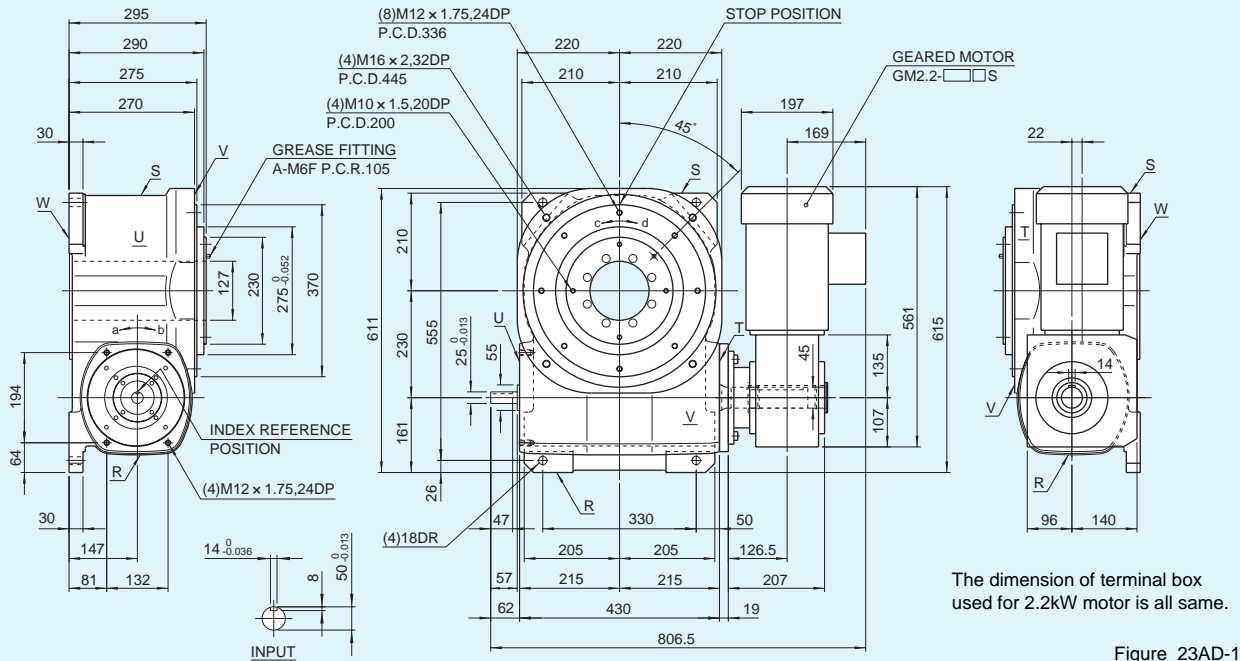


Figure 23AD-1

(b) With 3.7kW Motor

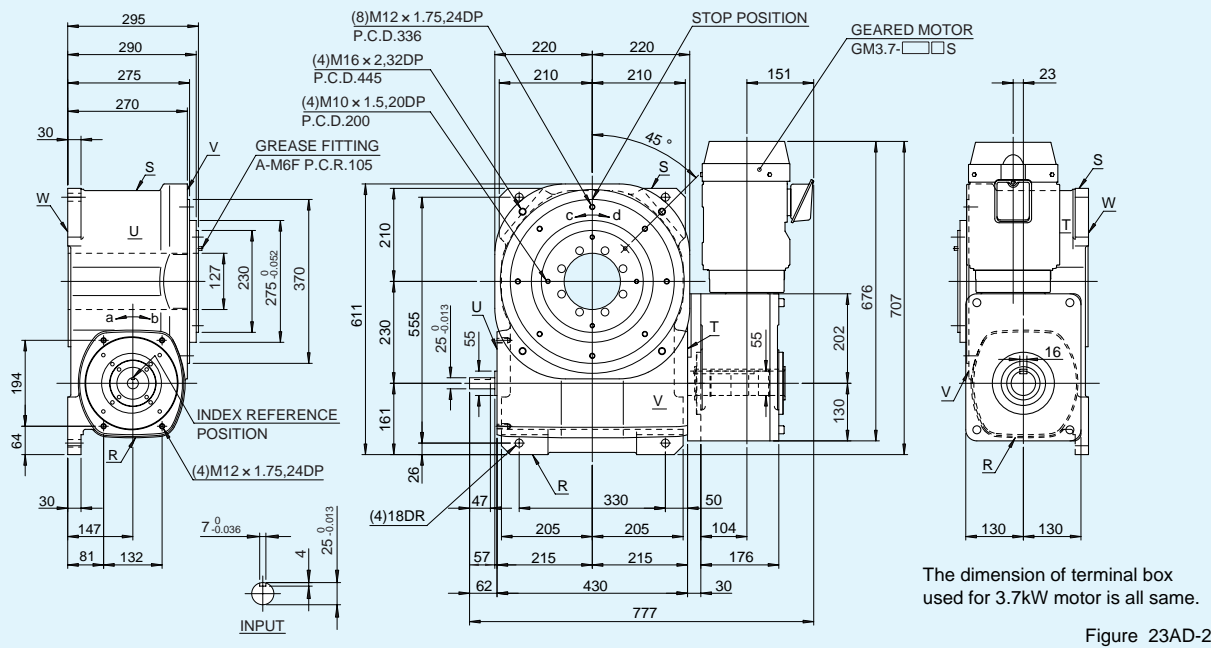


Figure 23AD-2

Dynamic-rated output torque Top of 23AD at 50 Index/min (N·m) Table 23AD-1

S	120	150	180	210	240	270	300	330
2								1325.9
3						1671.2	1671.0	
4		[SMCV-3 Curve]			2247.7	2244.1		
5			2164.9	2145.1	1960.5			
6			3314.3	4443.4	4047.5	4031.2		
8		4241.0	4170.0	3828.0	5142.8	5079.5		
10	3005.4	3590.3	3286.2	3241.4	4396.4	4312.6		
12	3363.4	3263.8	3705.5	3631.1	3553.3	3476.5	[SMS-3 Curve]	
15	3743.1	4028.9	3829.5	3311.8	3220.8	3136.3		
16	3832.4	4099.5	3913.6	4051.9	3954.2	3860.4		

[2 Dwell drives] (N·m) Table 23AD-2

S	180	210	240	270
16		4712.8	6331.5	6253.5
20	3232.6	3990.7	5412.6	5309.4
24	3708.7	3629.0	3547.3	4280.0
32	3913.6	4092.5	4222.6	4319.5

Note:

Dynamic-rated output torque is calculated based on a B10 life of 8,000 hours under standard operation.

2 Dwell drives will index and dwell two times per one rotation of the camshaft.

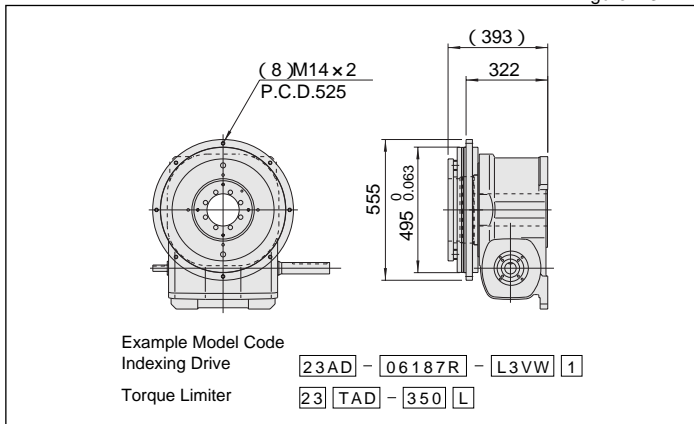
Specifications of geared motor

Table 23AD-3

Code		Motor Power (kW)	Actual Gear Ratio (i)	Output Shaft Speed Nm(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-23AD	GM2.2-20.37BS-23AD	2.2	20.37	69	82	275	230	4.3×10 ⁻³	53
GM2.2-23.33AS-23AD	GM2.2-23.33BS-23AD		23.33	60	72	295	250		
GM2.2-26.93AS-23AD	GM2.2-26.93BS-23AD		26.93	52	62	340	285		
GM2.2-29.63AS-23AD	GM2.2-29.63BS-23AD		29.63	47	57	375	315		
GM2.2-34.80AS-23AD	GM2.2-34.80BS-23AD		34.80	40	48	435	365		
GM2.2-36.85AS-23AD	GM2.2-36.85BS-23AD		36.85	38	46	460	385		
GM2.2-41.89AS-23AD	GM2.2-41.89BS-23AD		41.89	34	40	520	440		
GM2.2-46.40AS-23AD	GM2.2-46.40BS-23AD		46.40	30	36	570	485		
GM3.7-10AS-23AD	GM3.7-10BS-23AD	3.7	10	150	180	205	171	7.6×10 ⁻³	70
GM3.7-15AS-23AD	GM3.7-15BS-23AD		15	100	120	308	256		
GM3.7-20AS-23AD	GM3.7-20BS-23AD		20	75	90	410	341		
GM3.7-25AS-23AD	GM3.7-25BS-23AD		25	60	72	489	407		
GM3.7-30AS-23AD	GM3.7-30BS-23AD		30	50	60	586	489		
GM3.7-40AS-23AD	GM3.7-40BS-23AD		40	37.5	45	782	652		
GM3.7-50AS-23AD	GM3.7-50BS-23AD		50	30	36	977	814		

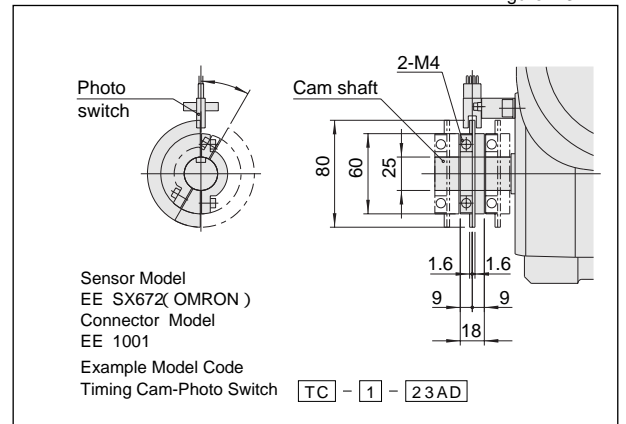
Torque limiter mounting specifications(option)

Figure 23AD-3



Timing cam Photo switch

Figure 23AD-4



Precautions

- The dimension drawing(Figure 23AD-1, 23AD-2) shows the standard mounting position for geared motor.
- Model 23AD 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 23AD can be equipped with torque limiter 23TAD.
- 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 ()below 180°.

Standard input shaft(T surface side)

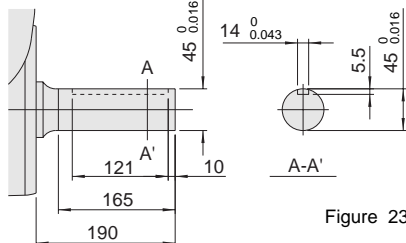
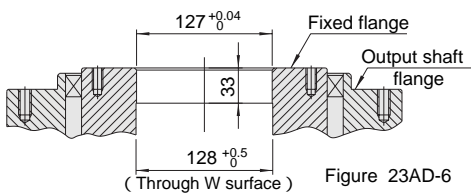


Figure 23AD-5

Output fixed flange specifications



Locations of oil plug, etc., and oil capacity

Figure 23AD-7

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

Precautions

- Each point indicated in the mounting positions shown in Figure 23AD-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 23AD-7 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

33AD

33AD Dimensions

[Unit : mm]

(a) With 5.5kW Motor

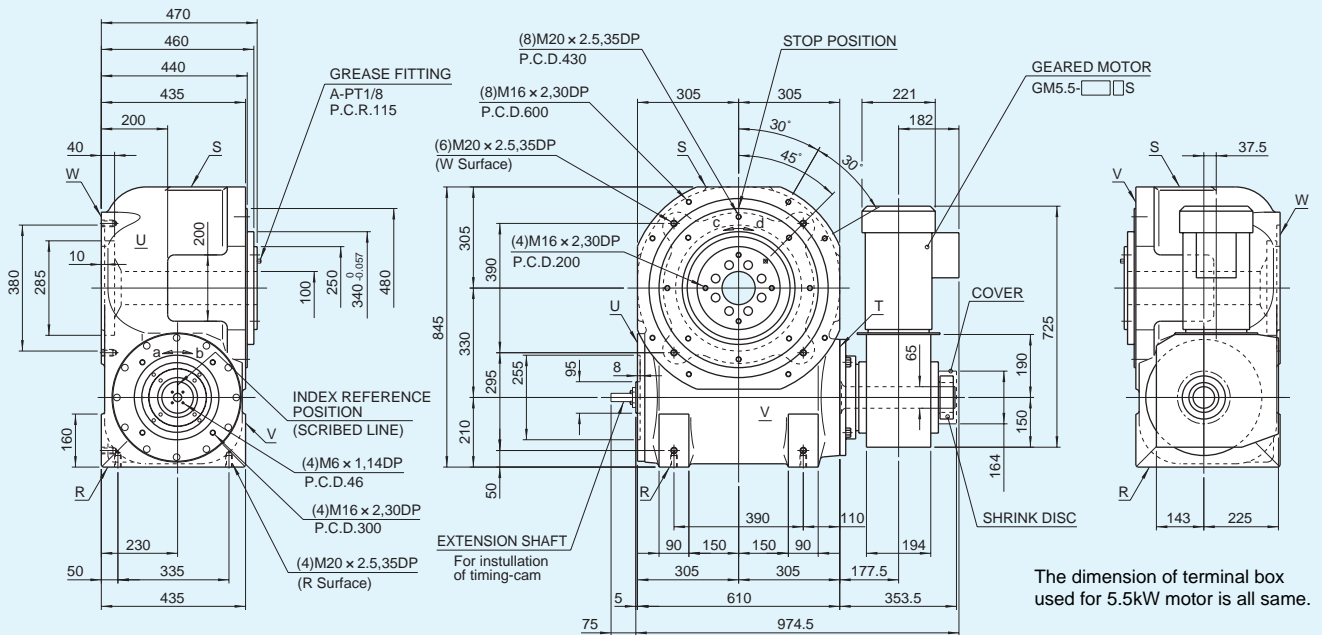


Figure 33AD-1

(b) With 7.5kW Motor

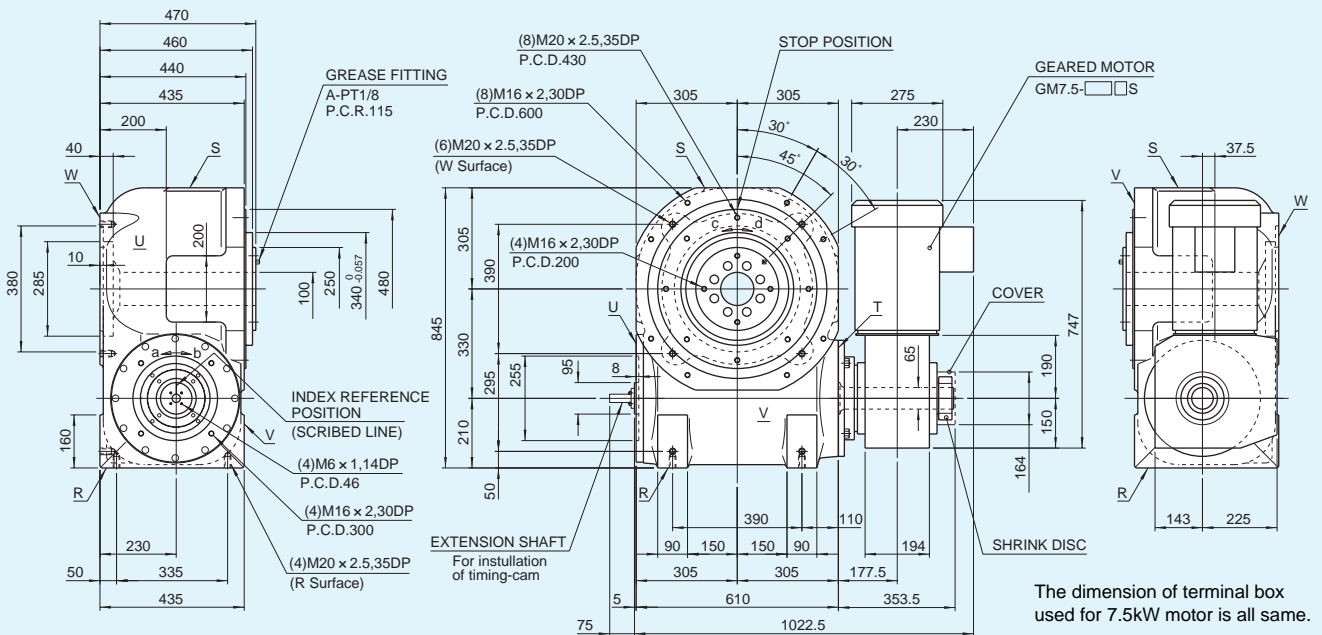


Figure 33AD-2

Dynamic-rated output torque Top of 33AD at 50 Index/min (N·m) Table 33AD-1

S	120	150	180	210	240	270	300	330
2								2861.6
3						3613.3	4864.2	
4		[SMCV-3 Curve]			5300.9	7246.2		
5			6318.0	6270.1	4245.6			
6		10277.5	11346.6	10330.0	10291.4			
8		9393.9	9700.3	11785.3	11824.0	12983.7		
10	7217.8	10214.6	7417.4	10189.6	10256.6	13573.0		
12	6029.6	8322.6	7844.2	8304.2	8638.3	8464.6	[SMS-3 Curve]	
15	6551.9	6967.1	6678.9	6956.4	7156.1	7013.8		
16	6683.1	7067.3	6801.3	7057.4	7240.0	7224.2		

[2 Dwell drives] (N·m)

Table 33AD-2

S	180	210	240	270
16		9264.4	12537.1	14095.1
20	5846.4	10189.6	13637.2	14128.6
24	7844.2	8304.2	11215.4	11509.2
32	6801.3	7057.4	7240.0	7373.7

Note:

Dynamic-rated output torque is calculated based on a B10 life of 8,000 hours under standard operation.

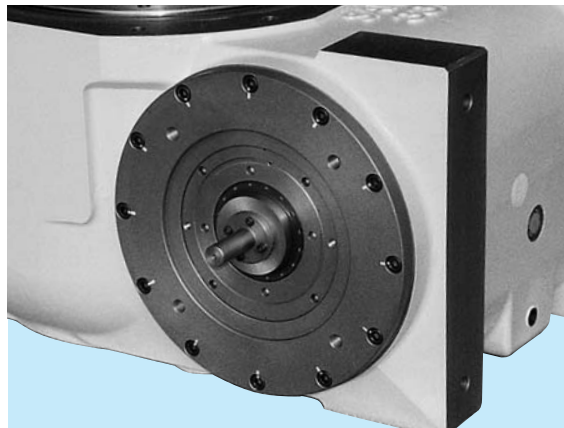
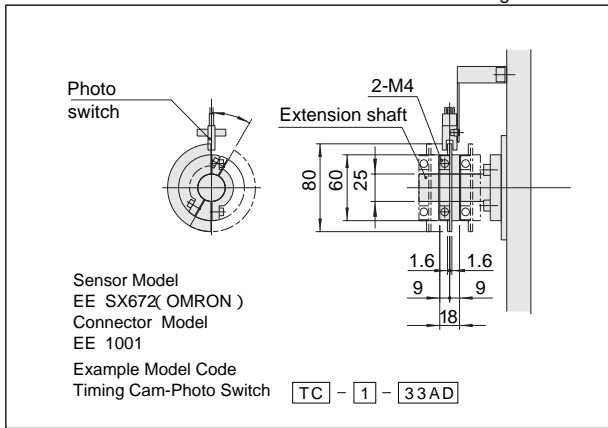
2 Dwell drives will index and dwell two times per one rotation of the camshaft.

Specifications of geared motor

Table 33AD-3

Code		Motor Power (kW)	Actual Gear Ratio (i)	Output Shaft Speed Nm(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		
GM5.5-19.70AS-33AD	GM5.5-19.70BS-33AD	5.5	19.70	73	87	670	565	17.5×10 ⁻³	139
GM5.5-25.50AS-33AD	GM5.5-25.50BS-33AD		25.50	56	67	860	725		
GM5.5-31.43AS-33AD	GM5.5-31.43BS-33AD		31.43	46	55	1040	870		
GM5.5-34.96AS-33AD	GM5.5-34.96BS-33AD		34.96	41	49	1150	970		
GM5.5-39.10AS-33AD	GM5.5-39.10BS-33AD		39.10	37	44	1280	1080		
GM5.5-44.03AS-33AD	GM5.5-44.03BS-33AD		44.03	33	39	1440	1210		
GM5.5-47.91AS-33AD	GM5.5-47.91BS-33AD		47.91	30	36	1560	1310		
GM5.5-57.00AS-33AD	GM5.5-57.00BS-33AD		57.00	25	30	1840	1550		
GM7.5-10.93AS-33AD	GM7.5-10.93BS-33AD	7.5	10.93	133	159	510	425	28.0×10 ⁻³	159
GM7.5-15.64AS-33AD	GM7.5-15.64BS-33AD		15.64	93	111	720	605		
GM7.5-19.70AS-33AD	GM7.5-19.70BS-33AD		19.70	74	88	910	760		
GM7.5-25.50AS-33AD	GM7.5-25.50BS-33AD		25.50	57	68	1170	980		
GM7.5-31.43AS-33AD	GM7.5-31.43BS-33AD		31.43	46	55	1400	1170		
GM7.5-34.96AS-33AD	GM7.5-34.96BS-33AD		34.96	41	50	1550	1300		
GM7.5-39.10AS-33AD	GM7.5-39.10BS-33AD		39.10	37	45	1730	1450		
GM7.5-44.03AS-33AD	GM7.5-44.03BS-33AD		44.03	33	40	1940	1630		

Torque limiter mounting specifications(option) Figure 33AD-3



Mounting extended shaft

Precautions

The dimension drawing(Figure 33AD-1, 33AD-2) shows the standard mounting position for geared motor.
 Model 33AD can be equipped with 5.5kW and 7.5kW motor. 11kW motor is also available as special instructions.
 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()below 180°.

Standard input shaft(T surface side)

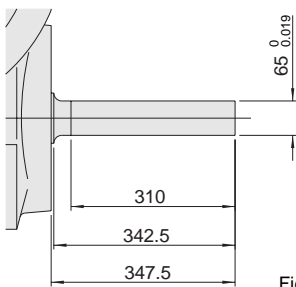


Figure 33AD-4

Output fixed flange specifications

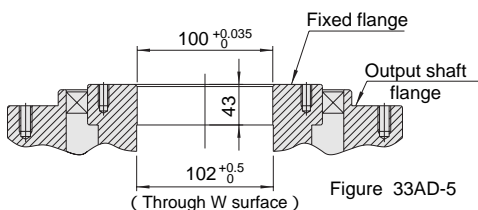


Figure 33AD-5

Locations of oil plug, etc., and oil capacity

Figure 33AD-6

Mounting position	1	2	5
Location			
Oil capacity(ℓ)	60	55	60

Precautions

Each point indicated in the mounting positions shown in Figure 33AD-6 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 33AD-6 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

45AD

45AD Dimensions

[Unit : mm]

(a) With 11kW Motor

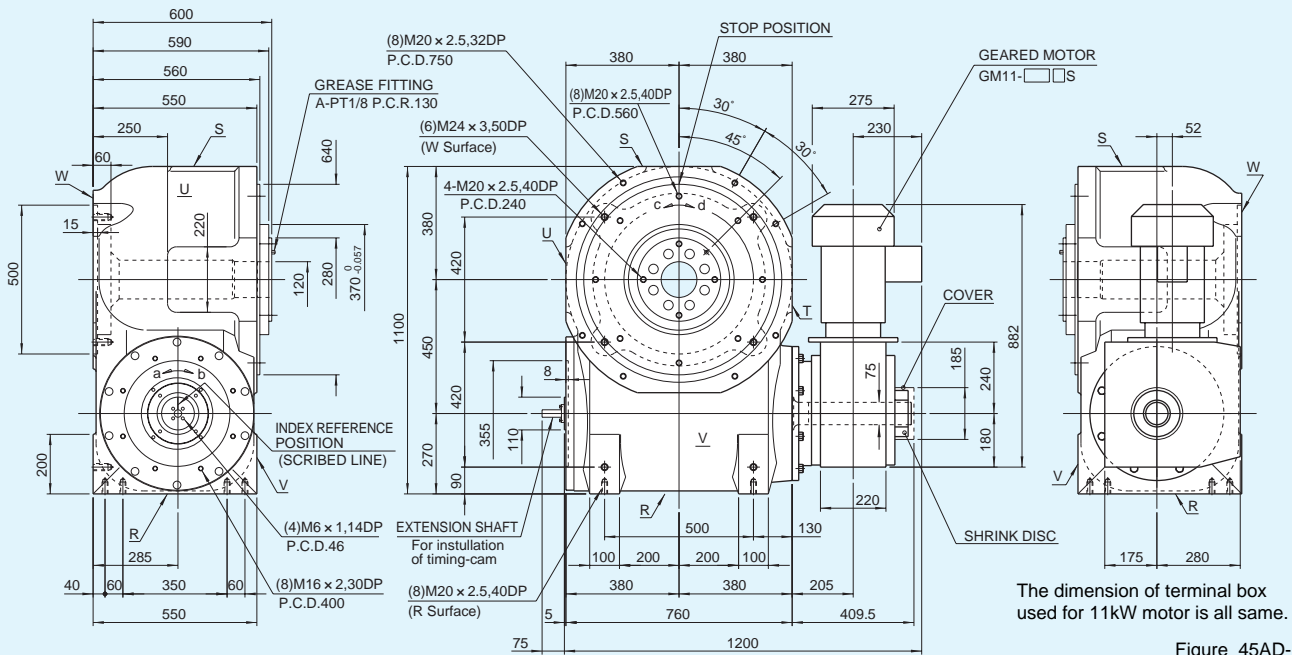


Figure 45AD-1

(b) With 15kW Motor

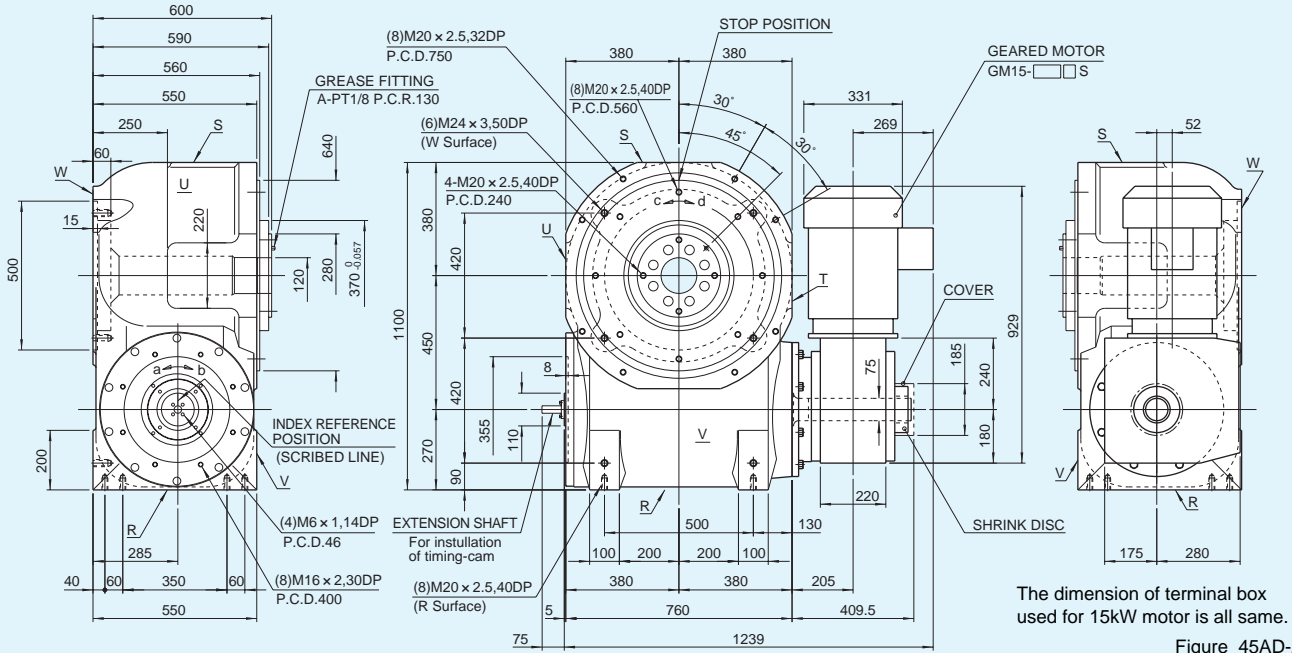


Figure 45AD-2

Dynamic-rated output torque Top of 45AD at 50 Index/min (N·m) Table 45AD-1

S	120	150	180	210	240	270	300	330
2								8422.9
3						10526.1	11603.2	
4		[SMCV-3 Curve]			21919.3	22915.9		
5			14910.2	14700.2	12257.3			
6		24517.9	24125.3	22217.3	21990.8			
8	30182.1	30241.8	27969.9	27505.8	27015.6			
10	17822.5	31754.8	30186.1	32243.1	31510.8	30797.1		
12	18940.4	20161.4	19313.5	20129.7	19698.7	19213.3	[SMS-3 Curve]	
15	14741.9	19682.9	14961.0	15429.6	19703.3	19154.7		
16	14968.3	15613.1	15169.5	15596.9	15423.4	14987.8		

[2 Dwell drives] (N·m)

Table 45AD-2

S	180	210	240	270
16		30106.5	31544.4	33260.1
20	30186.1	32405.2	33531.6	34375.3
24	19313.5	20129.7	20718.4	21153.2
32	15169.5	15596.9	15894.4	16108.5

Note:

Dynamic-rated output torque is calculated based on a B10 life of 8,000 hours under standard operation.

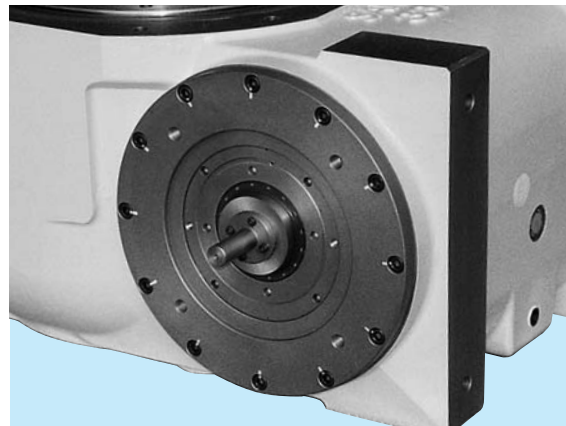
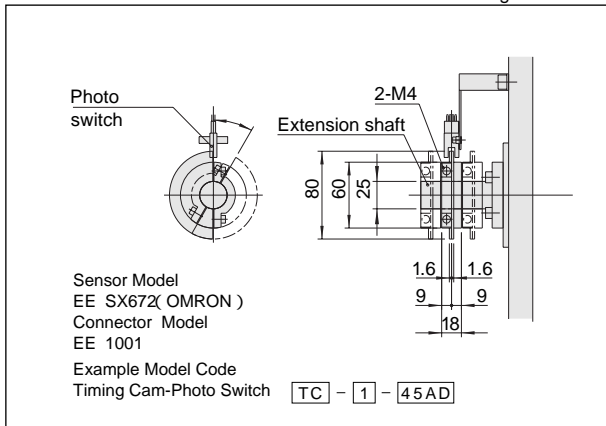
2 Dwell drives will index and dwell two times per one rotation of the camshaft.

Specifications of geared motor

Table 45AD-3

Code		Motor Power (kW)	Actual Gear Ratio (i)	Output Shaft Speed Nm(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		
GM11-19.23AS-45AD	GM11-19.23BS-45AD	11	19.23	75	90	1320	1110	40.0×10 ⁻³	240
GM11-23.59AS-45AD	GM11-23.59BS-45AD		23.59	61	73	1610	1350		
GM11-26.39AS-45AD	GM11-26.39BS-45AD		26.39	55	66	1800	1510		
GM11-32.60AS-45AD	GM11-32.60BS-45AD		32.60	44	53	2160	1820		
GM11-36.05AS-45AD	GM11-36.05BS-45AD		36.05	40	48	2380	2000		
GM11-40.65AS-45AD	GM11-40.65BS-45AD		40.65	36	43	2680	2250		
GM11-44.89AS-45AD	GM11-44.89BS-45AD		44.89	32	39	2950	2480		
GM11-49.87AS-45AD	GM11-49.87BS-45AD		49.87	29	35	3270	2750		
GM15-9.55AS-45AD	GM15-9.55BS-45AD	15	9.55	153	183	890	745	92.5×10 ⁻³	305
GM15-15.42AS-45AD	GM15-15.42BS-45AD		15.42	95	114	1430	1200		
GM15-21.23AS-45AD	GM15-21.23BS-45AD		21.23	69	82	1970	1640		
GM15-26.39AS-45AD	GM15-26.39BS-45AD		26.39	55	66	2430	2040		
GM15-32.60AS-45AD	GM15-32.60BS-45AD		32.60	45	54	2920	2450		
GM15-36.05AS-45AD	GM15-36.05BS-45AD		36.05	41	49	3230	2700		
GM15-40.65AS-45AD	GM15-40.65BS-45AD		40.65	36	43	3630	3040		
GM15-44.89AS-45AD	GM15-44.89BS-45AD		44.89	33	39	4000	3350		

Torque limiter mounting specifications(option) Figure 45AD-3



Mounting extended shaft

Precautions

The dimension drawing(Figure 45AD-1, 45AD-2) shows the standard mounting position for geared motor.
 Model 45AD can be equipped with 11kW and 15kW motor. 18.5kW motor is also available as special instructions.
 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()below 180°.

Standard input shaft(T surface side)

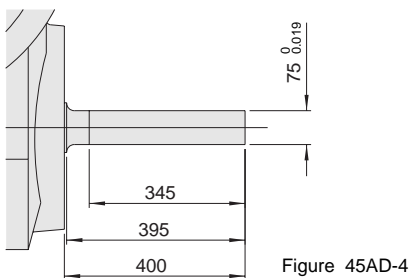


Figure 45AD-4

Output fixed flange specifications

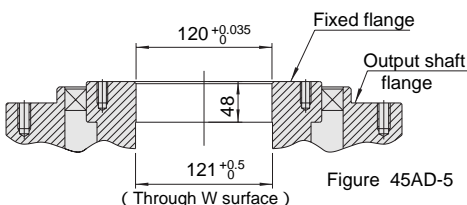


Figure 45AD-5

Locations of oil plug, etc., and oil capacity

Figure 45AD-6

Mounting position	1	2	5
Location			
Oil capacity(ℓ)	115	105	115

Precautions

Each point indicated in the mounting positions shown in Figure 45AD-6 represents (starting at top) the oil plug (PT1), oil level (VB), and drain (PT1).
 The mounting positions correspond to code i for the indexing drives.
 The oil capacities indicated in Figure 45AD-6 are given in general figures and will differ according to the profile of the cam and the number of cam followers.

TORQUE LIMITER

Dimensions

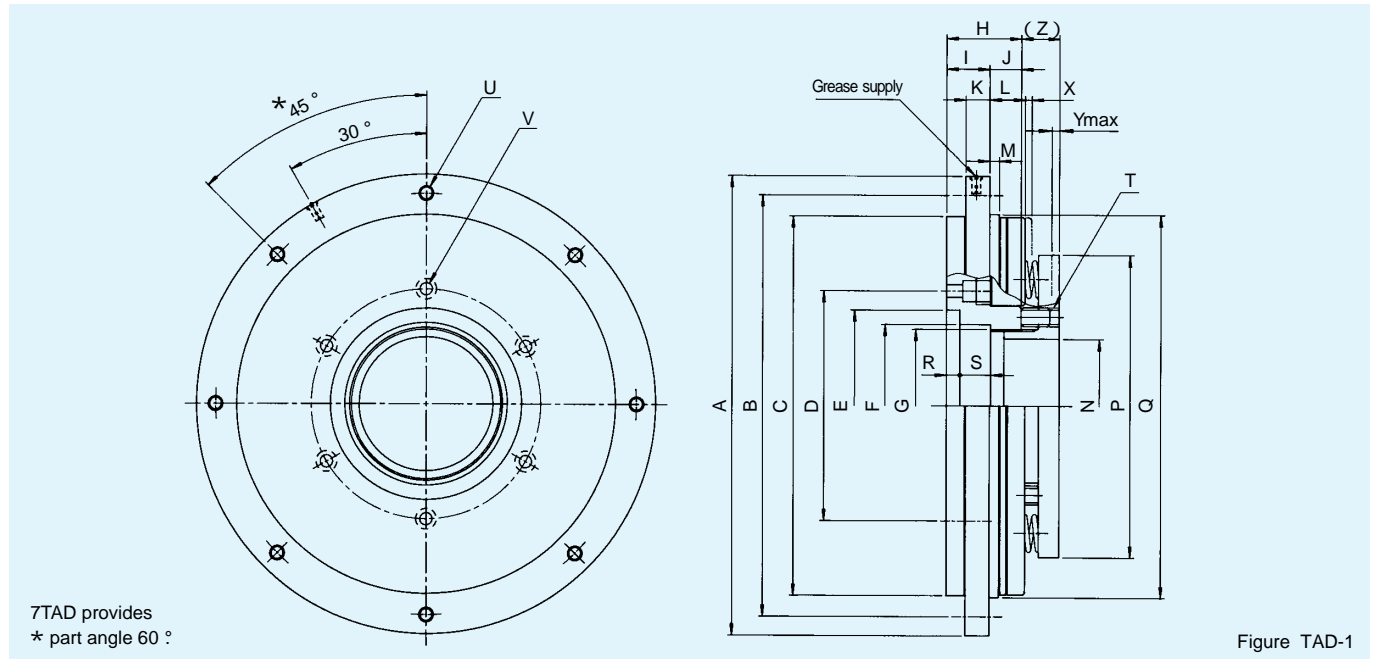


Figure TAD-1

Table of dimensions

Table TAD-1

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	X	Y _{max}	(Z)
7TAD	180	168	152	85	70 H7	60	M55 x2	33	19	14	10.5	14	5	47	107	155 h7	7	10	(4) M5	(6)M5 x0.8	(6) 6.6DR.	3	5	16.5
9TAD	240	220	198	120	100 H7	85	M80 x2	39	22.5	16.5	12.5	17.5	5	70	158	200 h7	7	16	(4) M10	(8)M8 x1.25	(6) 6.6DR.	3.5	7	23
11TAD	285	260	229	150	120 H7	108	M105 x2	44	25	19	14.5	20	6	95	186	235 h7	12	13	(4) M10	(8)M10 x1.5	(6) 9DR.	3.7	7.5	26
15TAD	395	365	328	210	172 H7	155	M145 x2	64	37	27	20	27	6	130	256	335 h7	12	33	(4) M10	(8)M12 x1.75	(6) 11DR.	5.5	7	26
19TAD	480	450	419	260	230 H7	186	M180 x2	77	42	35	21	33	8	166	326	420 h7	16	43	(4) M10	(8)M12 x1.75	(8) 14DR.	5.6	7	34
23TAD	555	525	494	336	275 H7	262	M260 x2	82	47	35	25	35	9	246	402	495 h7	17	44	(4) M10	(8)M14 x2	(8) 14DR.	6.5	8	36

[Unit : mm]

Specifications

Table TAD-2

Model	Code	Range of tripping torque (N·m)	Thread pitch on torque adjusting nut (mm)	Max. allowable radial load (N)	Max. allowable thrust load (N)	Max. allowable bending moment (N·m)	Max. revolution per minute (r.p.m.)	Moment of inertia (kg·m ²)	Mass (kg)
7TAD	7TAD-15L	40 ~ 150	2	2450	2950	45	200	0.02	4.5
	7TAD-25H	100 ~ 250							
9TAD	9TAD-20L	60 ~ 200	2	5200	5000	100	200	0.07	9.6
	9TAD-45H	140 ~ 450							
11TAD	11TAD-23L	90 ~ 230	2	7300	7000	180	200	0.15	15
	11TAD-60H	150 ~ 600							
15TAD	15TAD-100L	300 ~ 1000	2	11800	12000	430	140	0.8	43
	15TAD-220H	650 ~ 2200							
19TAD	19TAD-200L	600 ~ 2000	2	16800	17000	750	120	2.1	74
	19TAD-450H	1500 ~ 4500							
23TAD	23TAD-350L	1200 ~ 3500	2	24800	35000	1950	100	4.5	110
	23TAD-550H	2000 ~ 5500							

Precautions

- After adjusting the torque, make sure to tighten the set bolts.
- Specifications and dimensions are subject to change without notice. Please double check before ordering.

- X : When an overload occurs, the overload detection panel moves X mm. This movement is used to activate a sensing device and thereby allows the user to control operation of the mechanism involved.
- (Z) : This dimension indicates the height when the spring is free and should be referred to when calculating tripping torque.
- Y_{max} : This dimension indicates tightening length when tripping torque is maximum. If tightening more than this figure, torque limiter does not operate.