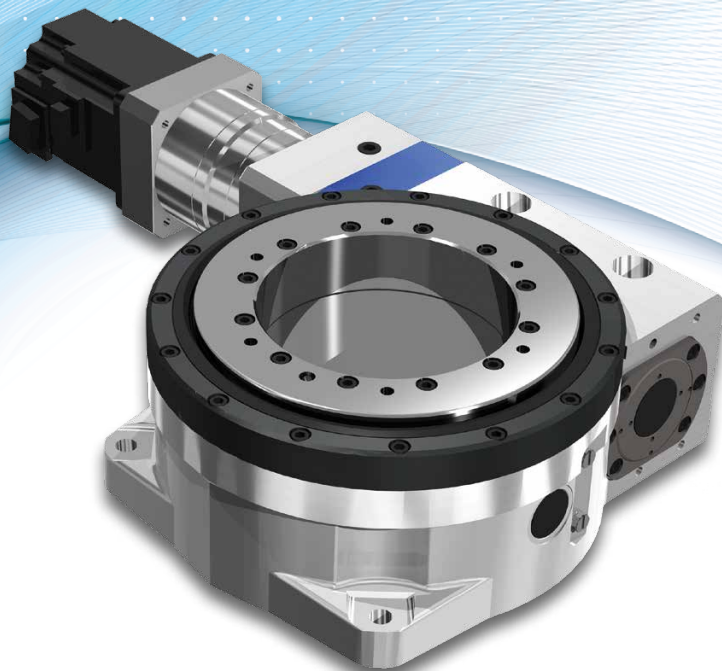


*Zero Backlash Positioner*

**RollerDrive<sup>®</sup>**

 **RGR** series Large-Diameter Model

*Large-diameter hole model with an open area of 30%  
Significantly improved freedom of wiring and piping design*



# The ZERO-Backlash Technology

A mechanism developed through the pursuit of outstanding functionality and performance

## Superior movement achieved with zero-backlash technology

The RollerDrive is a zero-backlash reducer that utilizes a rolling transmission method with preload adjustment for high-dimensional accuracy, responsiveness, and rigidity with stable performance over long periods.

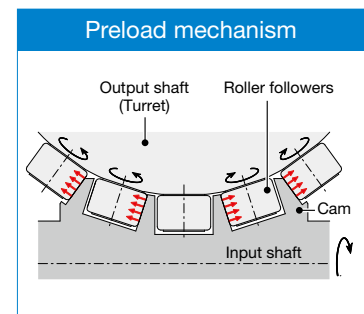
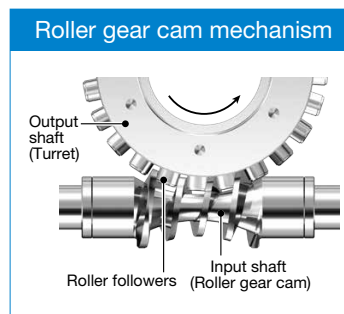
The large-diameter hole construction with a direct input/output shaft layout enables a compact design with zero backlash.

Meanwhile, the rolling transmission method of the RollerDrive provides a characteristic long service life.

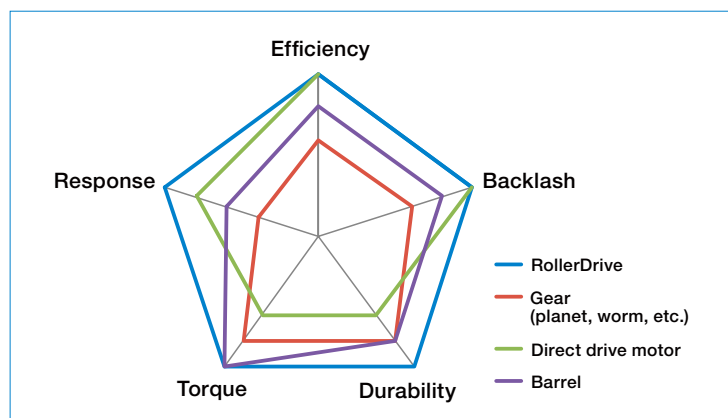


## Positioner Lineup

For general factory automation	
<b>MR</b> Ultra-compact model	
<b>RGV</b> Standard model	
<b>RGR</b> Large-diameter model	
<b>RA</b> Lightweight model	
<b>RU</b> High-rigidity model	
For welding machines	
<b>SP</b> Standard model	
<b>RW</b> High-accuracy model	

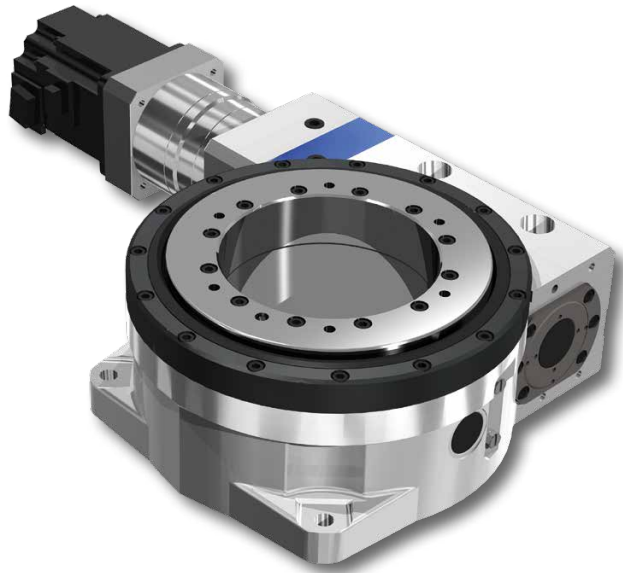


## Performance Comparison

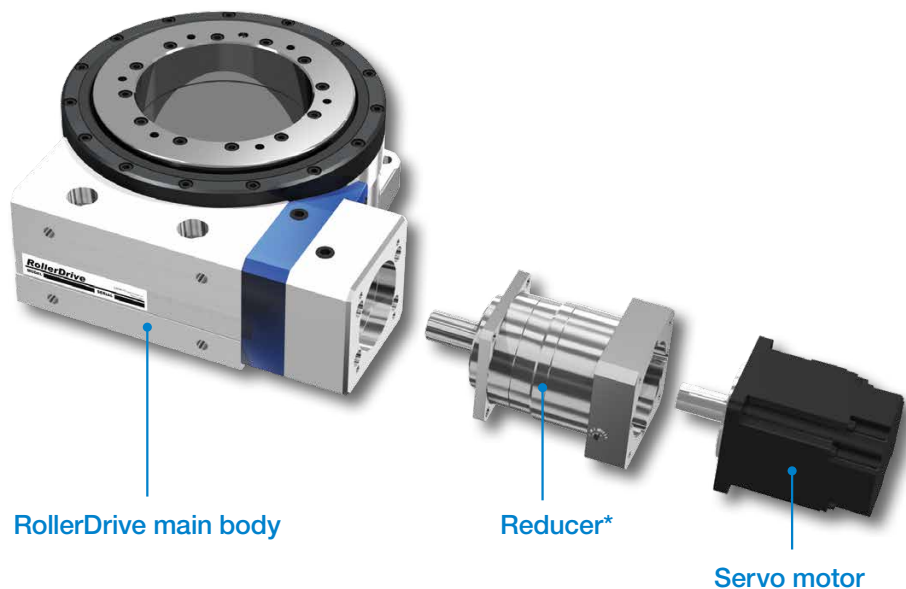


# **RollerDrive<sup>®</sup> RGR series**

*Zero-backlash positioner Large-diameter model*



- Features**
- ▶ Large-diameter hole model with an open area of 30%
  - ▶ Improved freedom of wiring and piping design
  - ▶ Large output torque from a compact servo motor
  - ▶ Capable of handling heavy and uneven loads easily
  - ▶ Thin and lightweight body



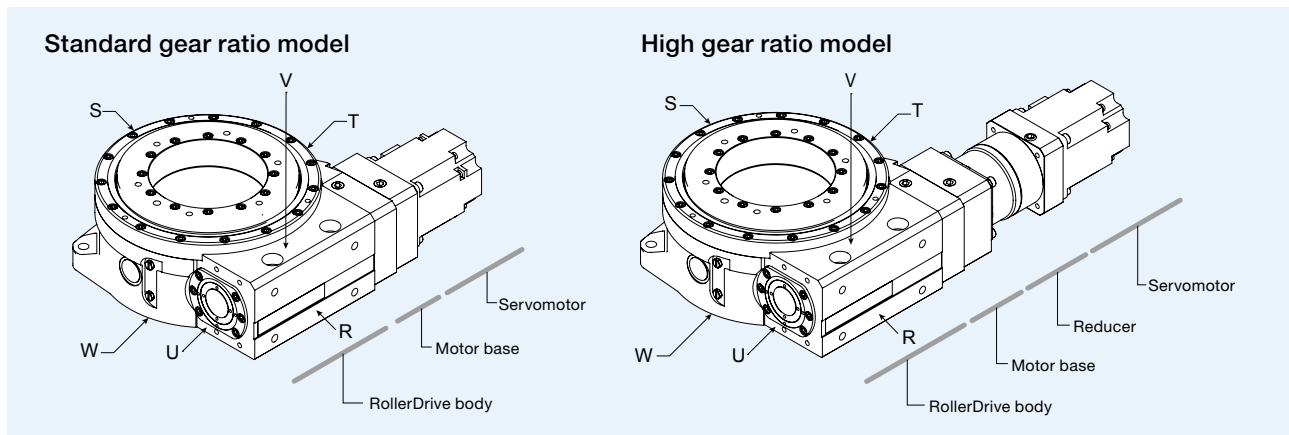
\*For high gear ratio model

# Product Code

## Product Code

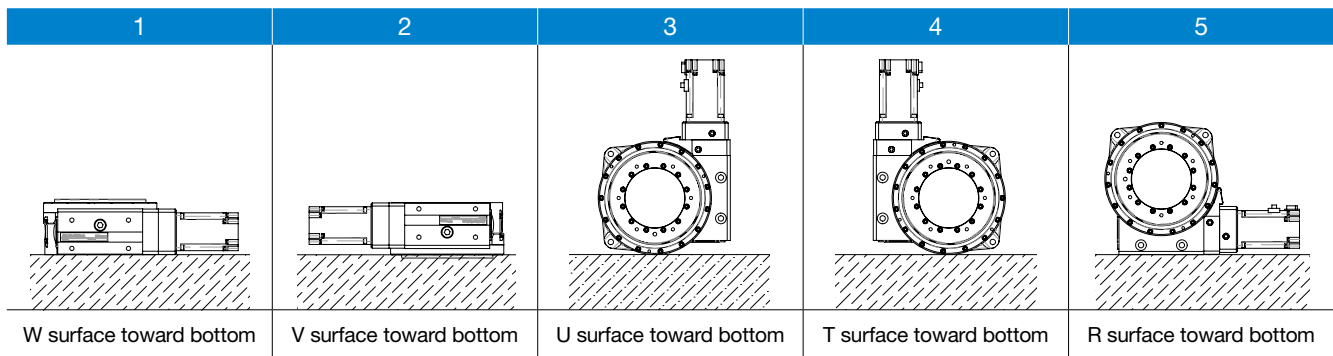
1	2	3	4	5	6	7
RGR	063	090	G	T	A	BJC
1	2	3	4	5	6	7
Model	Size	Gear ratio	Lubrication method	Servomotor position	Options	Attachment code
RGR	063	030, 090, 150	G : Greaselubrication Usable in any position/direction	T : Standard Mounted on right side of main unit  U : Mounted on left side of main unit	Blank : None  A : Rustproof specification  B : Rustproof/dustproof/waterproof specification	See the list of mountable motors for each size ⇒ P. 13 to 15
	080					
	100					
		036, 108, 180	For oil lubrication: 1/2/3/4/5 See oil lubrication mounting codes below			

## RollerDrive components and mounting surface designations



\* Shown with servomotor on "T" surface

## Oil lubrication mounting codes



# Product Specifications

## Grease lubrication type

Model		RGR063			RGR080			RGR100		
Main unit gear ratio		30			36			36		
Reducer gear ratio		1	3	5	1	3	5	1	3	5
Total gear ratio		30	90	150	36	108	180	36	108	180
Start / Stop limit torque	N · m	153			194			220		
Static output torque	N · m	209			272			310		
Maximum input speed	min <sup>-1</sup>	1,800	5,400	6,000	1,600	4,800	6,000	1,400	4,200	6,000
Rated input speed	min <sup>-1</sup>	900	2,700	3,000	800	2,400	3,000	700	2,100	3,000
Maximum output speed <sup>*1</sup>	min <sup>-1</sup>	60	60.0	36.0	44.4	44.4	26.7	38.9	38.9	23.3
Rated output speed <sup>*1</sup>	min <sup>-1</sup>	30	30.0	18.0	22.2	22.2	13.3	19.4	19.4	11.7
Internal moment of inertia at the input shaft <sup>*2</sup>	× 10 <sup>-4</sup> kg · m <sup>2</sup>	0.215			0.334			1.073		
Equivalent moment of inertia of motor shaft <sup>*3</sup>	× 10 <sup>-4</sup> kg · m <sup>2</sup>	0.44	0.30	0.20	0.56	0.31	0.21	1.30	0.39	0.24
Repeatability <sup>*4</sup>	arc sec or less	± 7			± 5			± 5		
Allowable axial load (load weight)	N	1,112		1,236	1,243		1,381	3,507		3,897
Allowable radial load	N	745		828	833		926	2,350		2,611
Allowable moment load	N · m	73		80	117		127	353		385
Weight (not including motor) <sup>*5</sup>	kg	6.1			8.3			16		

\*1 Contact Sankyo in the case of output with continuous rotation at 360 degrees or more.

\*2 Does not include coupling and reducer.

\*3 Maximum value may vary depending on motor specifications.

\*4 Indicates the accuracy for the main unit without the reducer.

\*5 May vary slightly depending on reduction ratio and motor specifications/dimensions.

## Oil lubrication type

Model		RGR063			RGR080			RGR100		
Main unit gear ratio		30			36			36		
Reducer gear ratio		—	3	5	—	3	5	—	3	5
Total gear ratio		30	90	150	36	108	180	36	108	180
Start / Stop limit torque	N · m	153			194			220		
Static output torque	N · m	209			272			310		
Maximum input speed	min <sup>-1</sup>	3,000	6,000		2,800	6,000		2,400	6,000	
Rated input speed	min <sup>-1</sup>	1,500	3,000		1,400	3,000		1,200	3,000	
Maximum output speed <sup>*1</sup>	min <sup>-1</sup>	100	66.7	40.0	77.8	55.6	33.3	66.7	55.6	33.3
Rated output speed <sup>*1</sup>	min <sup>-1</sup>	50	33.3	20.0	38.9	27.8	16.7	33.3	27.8	16.7
Internal moment of inertia at the input shaft <sup>*2</sup>	× 10 <sup>-4</sup> kg · m <sup>2</sup>	0.215			0.334			1.073		
Equivalent moment of inertia of motor shaft <sup>*3</sup>	× 10 <sup>-4</sup> kg · m <sup>2</sup>	0.44	0.30	0.20	0.56	0.31	0.21	1.30	0.39	0.24
Repeatability <sup>*4</sup>	arc sec or less	± 7			± 5			± 5		
Allowable axial load (load weight)	N	1,112		1,236	1,243		1,381	3,507		3,897
Allowable radial load	N	745		828	833		926	2,350		2,611
Allowable moment load	N · m	73		80	117		127	353		385
Weight (not including motor) <sup>*5</sup>	kg	6.5	8.1		9.1	10.7		17.3	18.7	

\*1 Contact Sankyo in the case of output with continuous rotation at 360 degrees or more.

\*2 Does not include coupling and reducer.

\*3 Maximum value may vary depending on motor specifications.

\*4 Indicates the accuracy for the main unit without the reducer.

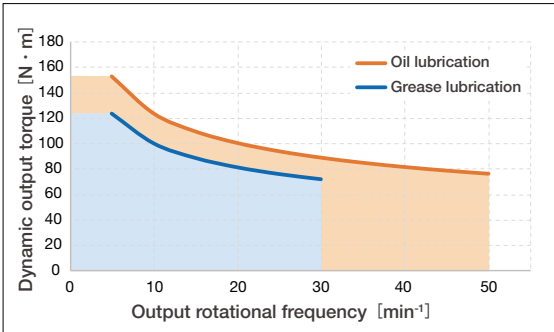
\*5 May vary slightly depending on reduction ratio and motor specifications/dimensions.



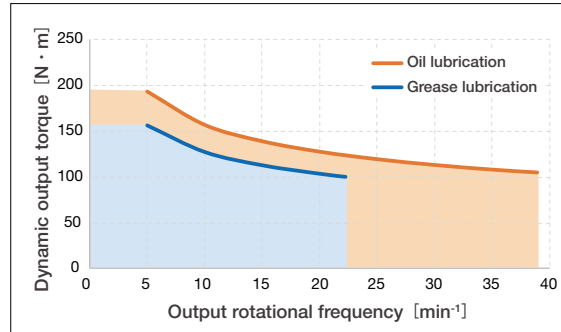
## Dynamic output torque

The limit for the load torque acting on the output shaft is indicated to satisfy the expected lifetime (12,000 hours) of the RollerDrive. Dynamic output torque varies according to the output rotational frequency.

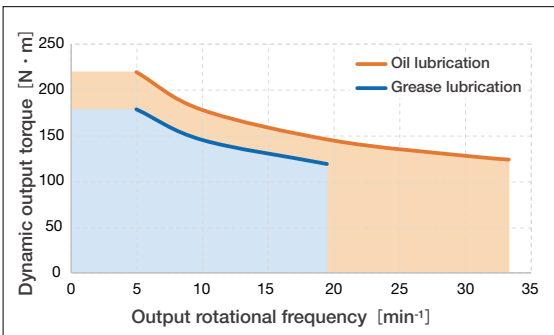
### RGR063



### RGR080



### RGR100

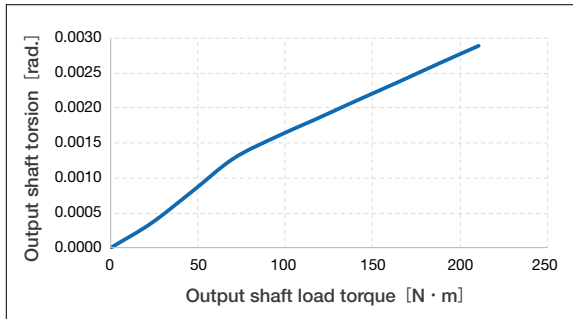




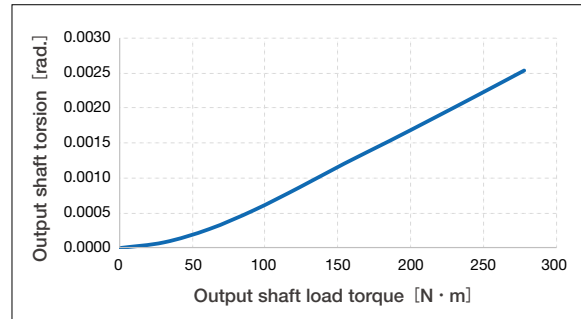
## Torsional Rigidity

Torsional rigidity is the degree of shaft torsion for the output shaft torque.  
Higher torsional rigidity means less torque deformation and higher natural frequency.

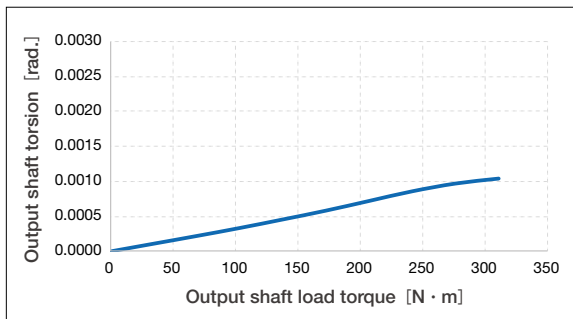
**RGR063**



**RGR080**

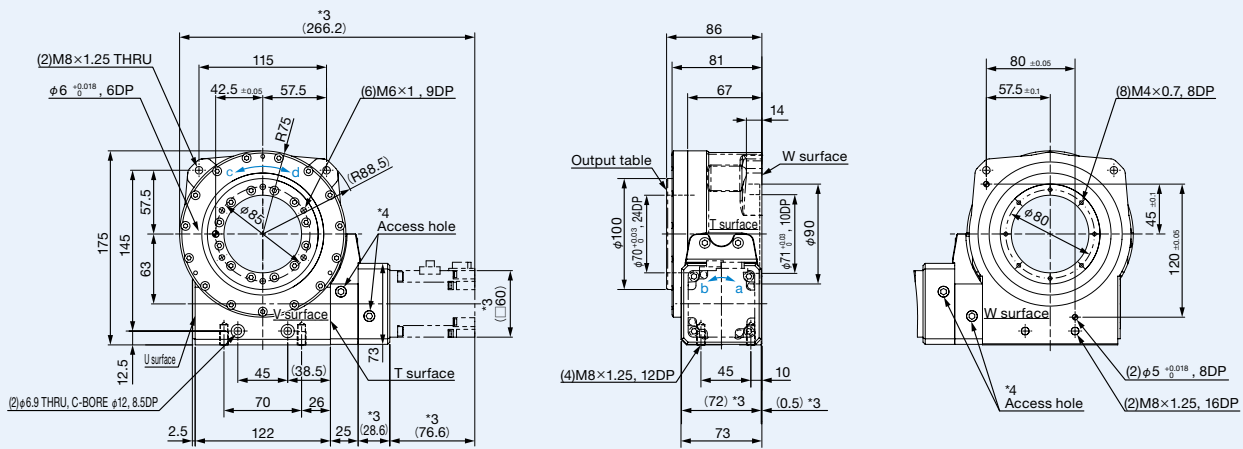


**RGR100**

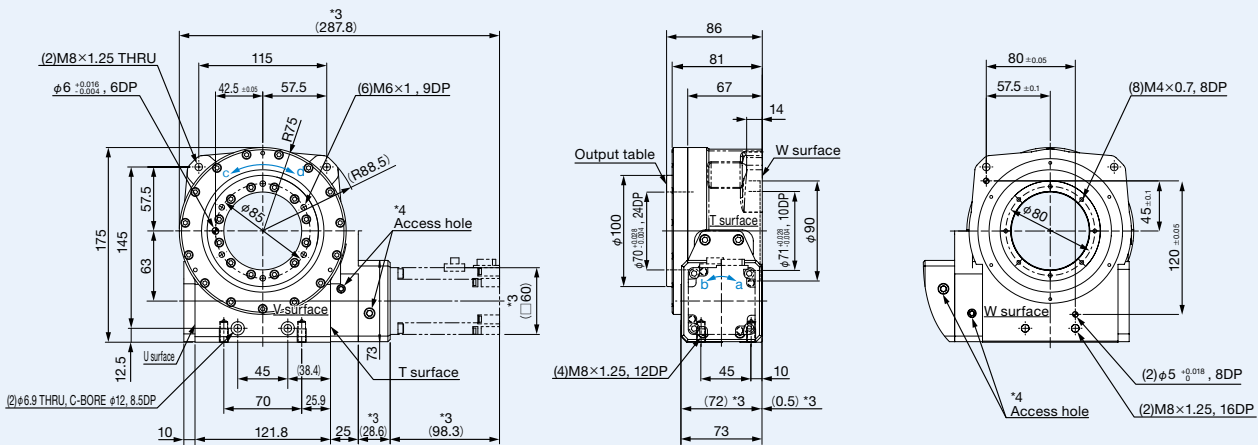


# RGR063 Dimensions of Standard Gear Ratio Models

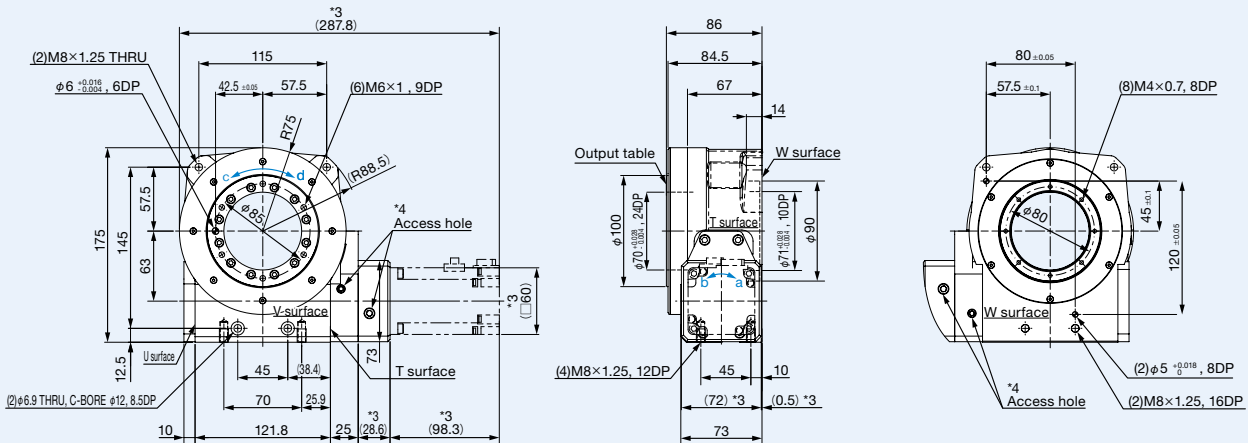
## Options: None



## Options: A



## Options: B



\*1 This drawing is for a model where the motor is mounted on the T surface. \*2 The rotating directions of input-output axes are related as a-d and b-c.

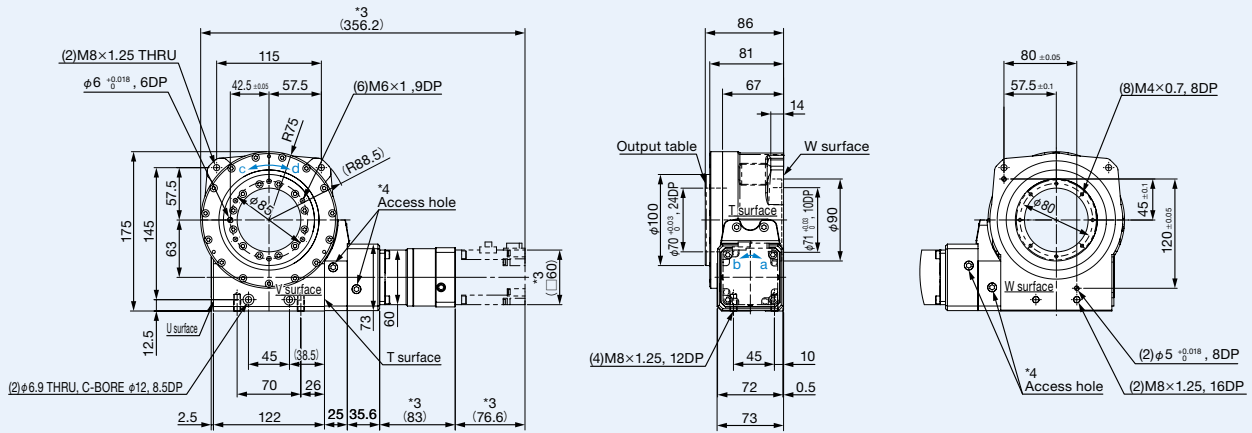
\*3 Dimensions in parentheses ( ) vary depending on the motor. \*4 There are two access holes on the V surface and two on the W surface.

\*5 Due to its mounting position, the positions of the oil plug, oil level, and drain differ for the oil lubrication type. See P. 16. \*6 The servo motor will need to be prepared by the customer.

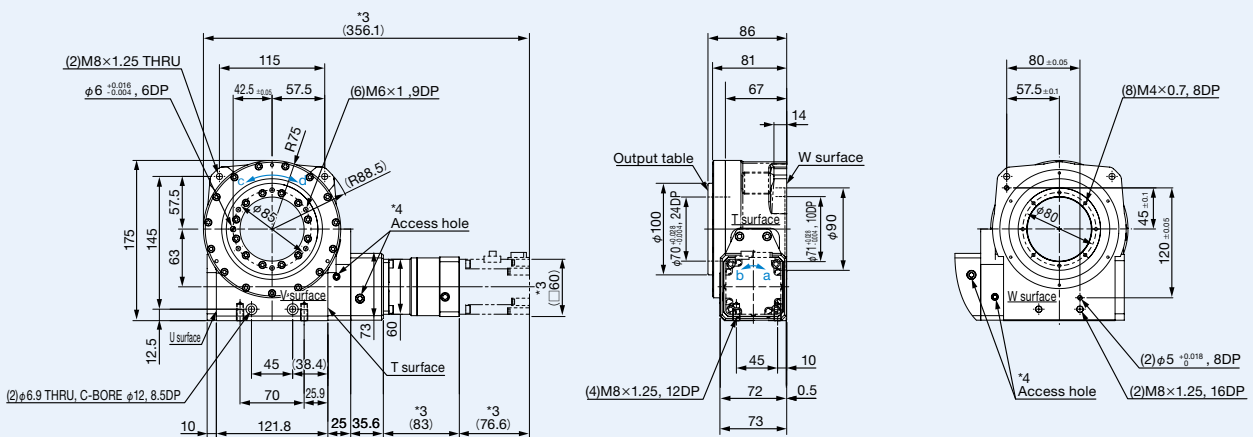


# RGR063 Dimensions of High Gear Ratio Models

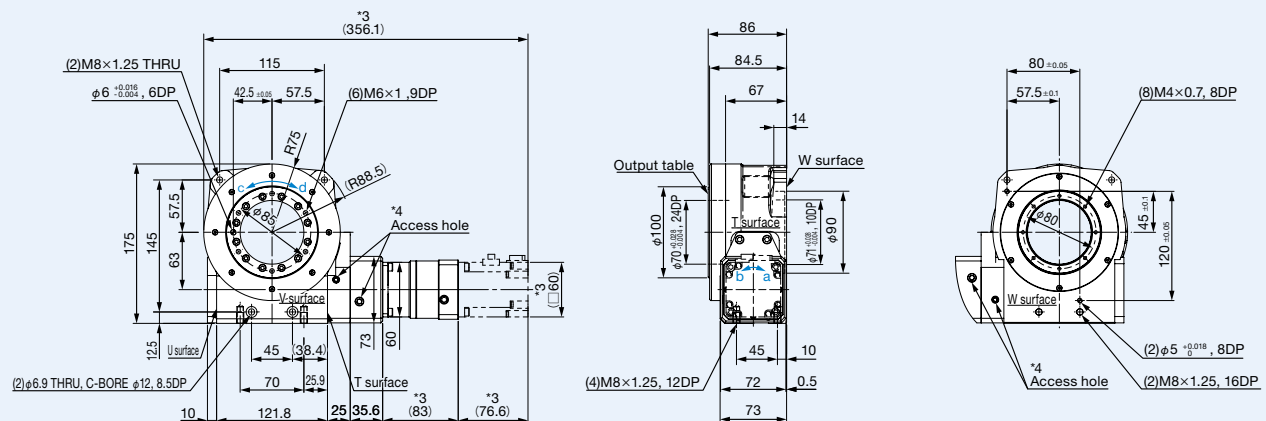
## Options: None



## Options: A



## Options: B



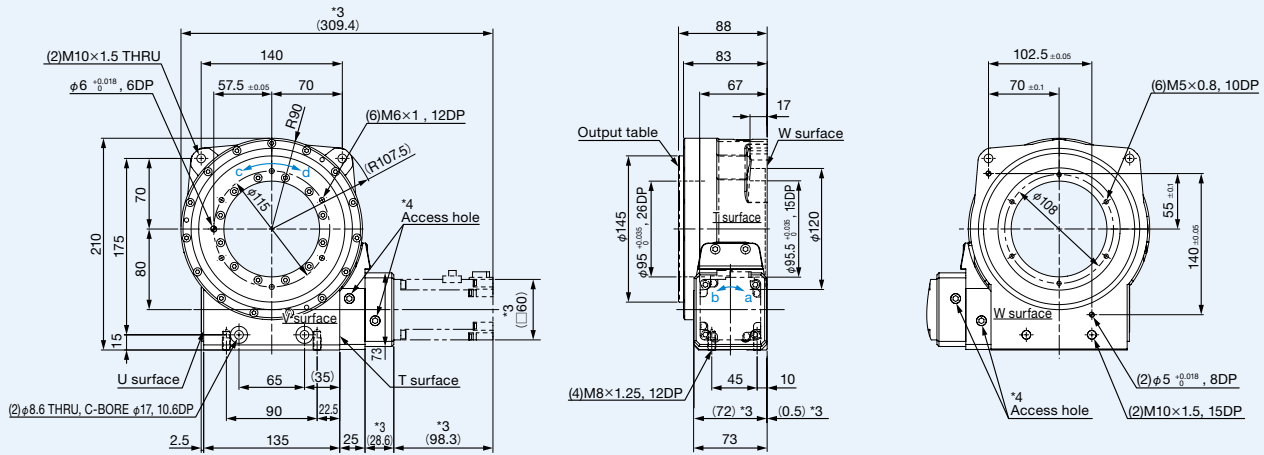
\*1 This drawing is for a model where the motor is mounted on the T surface. \*2 The rotating directions of input-output axes are related as a-d and b-c.

\*3 Dimensions in parentheses ( ) vary depending on the motor. \*4 There are two access holes on the V surface and two on the W surface.

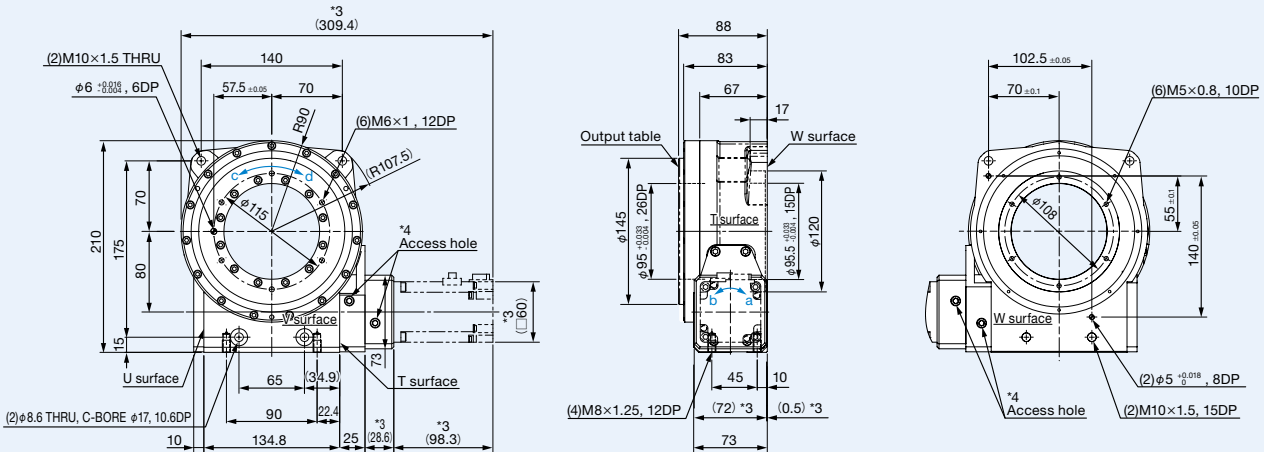
\*5 Due to its mounting position, the positions of the oil plug, oil level, and drain differ for the oil lubrication type. See P. 16. \*6 The servo motor will need to be prepared by the customer. 8

# RGR080 Dimensions of Standard Gear Ratio Models

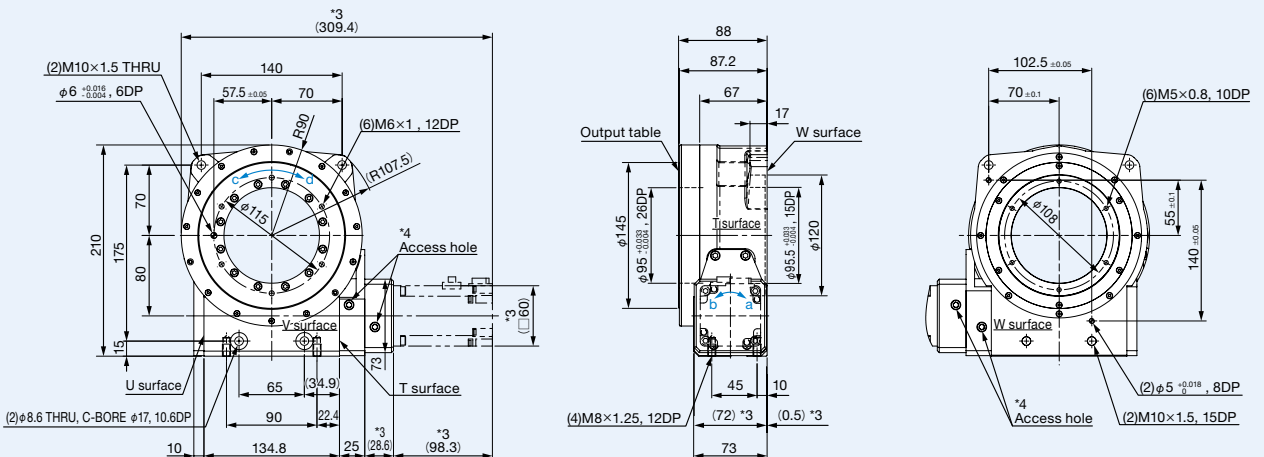
## Options: None



## Options: A



## Options: B



\*1 This drawing is for a model where the motor is mounted on the T surface. \*2 The rotating directions of input-output axes are related as a-d and b-c.

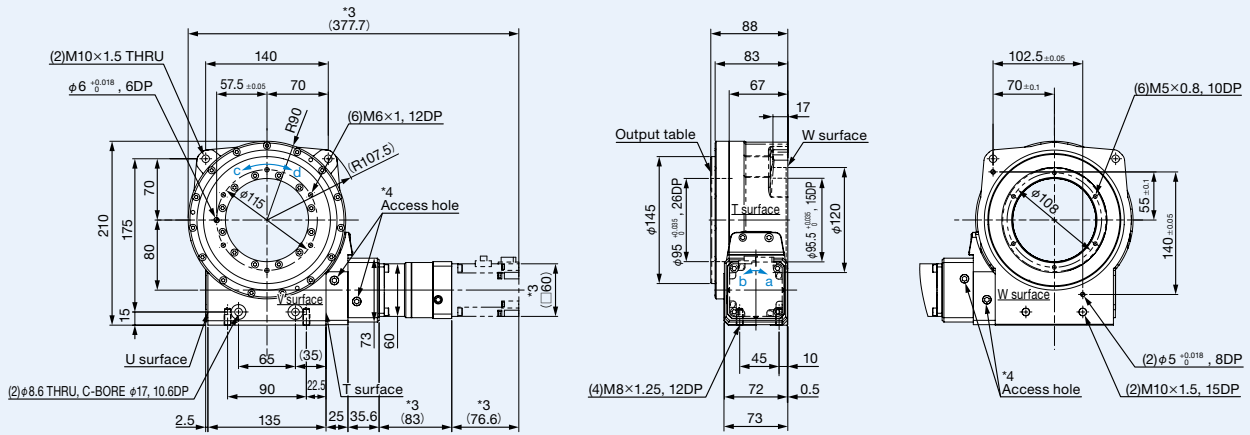
\*3 Dimensions in parentheses ( ) vary depending on the motor. \*4 There are two access holes on the V surface and two on the W surface.

9 \*5 Due to its mounting position, the positions of the oil plug, oil level, and drain differ for the oil lubrication type. See P. 16. \*6 The servo motor will need to be prepared by the customer.

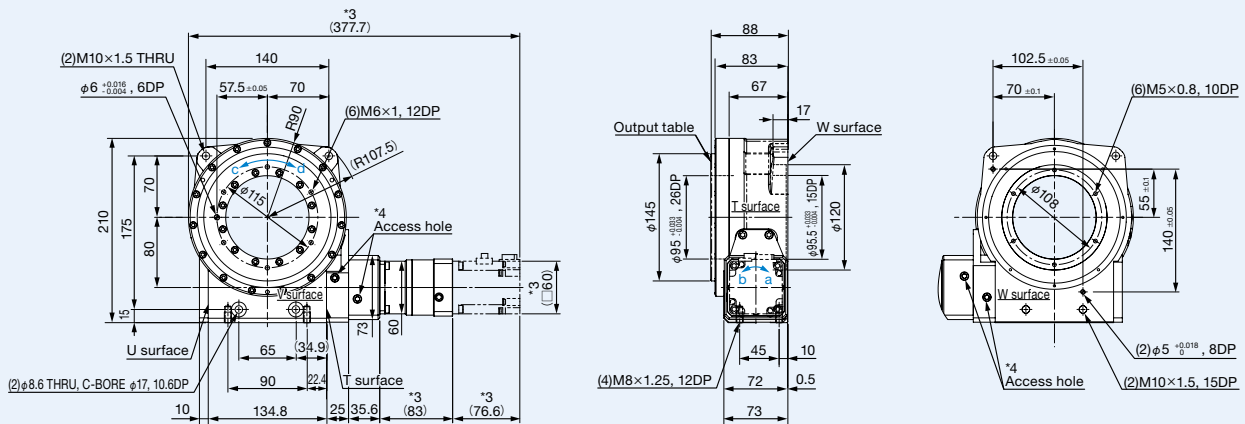


## RGR080 Dimensions of High Gear Ratio Models

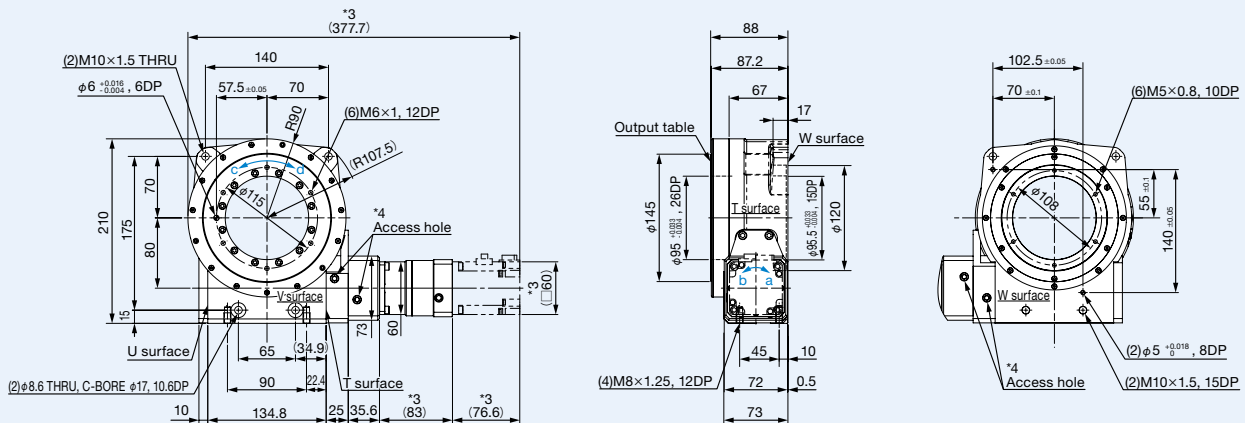
### Options: None



### Options: A



### Options: B



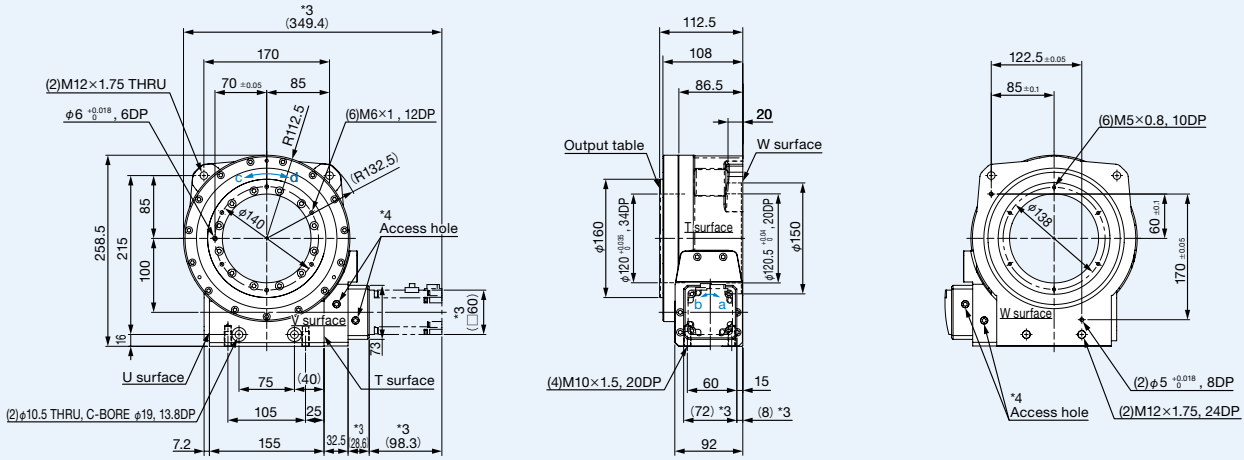
\*1 This drawing is for a model where the motor is mounted on the T surface. \*2 The rotating directions of input-output axes are related as a-d and b-c.

\*3 Dimensions in parentheses ( ) vary depending on the motor. \*4 There are two access holes on the V surface and two on the W surface.

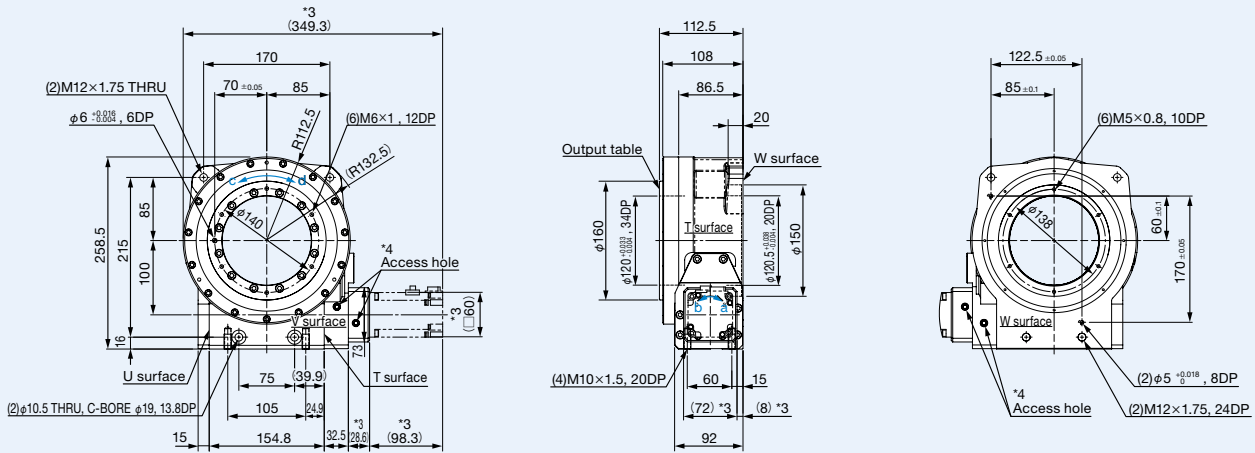
\*5 Due to its mounting position, the positions of the oil plug, oil level, and drain differ for the oil lubrication type. See P. 16. \*6 The servo motor will need to be prepared by the customer. 10

# RGR0100 Dimensions of Standard Gear Ratio Models

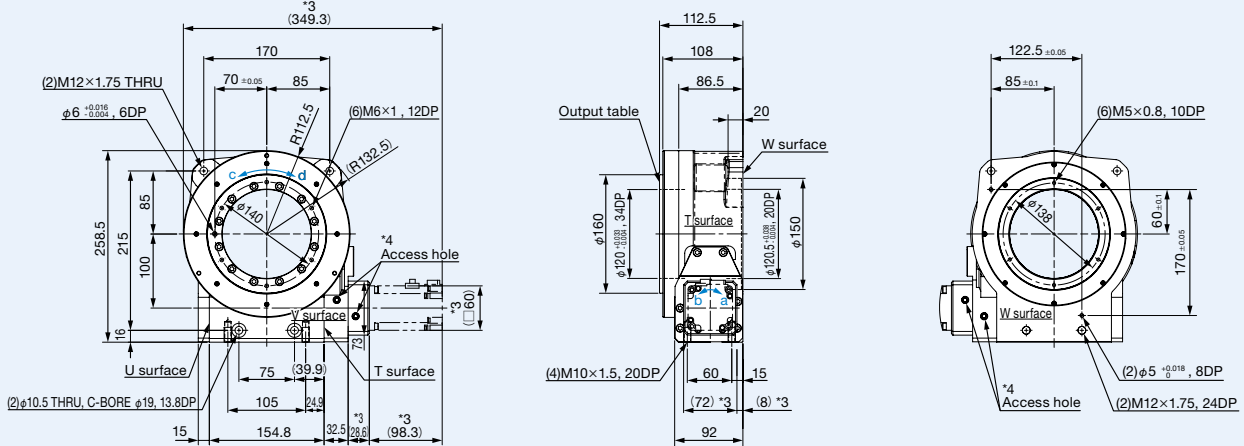
## Options: None



## Options: A



## Options: B



\*1 This drawing is for a model where the motor is mounted on the T surface. \*2 The rotating directions of input-output axes are related as a-d and b-c.

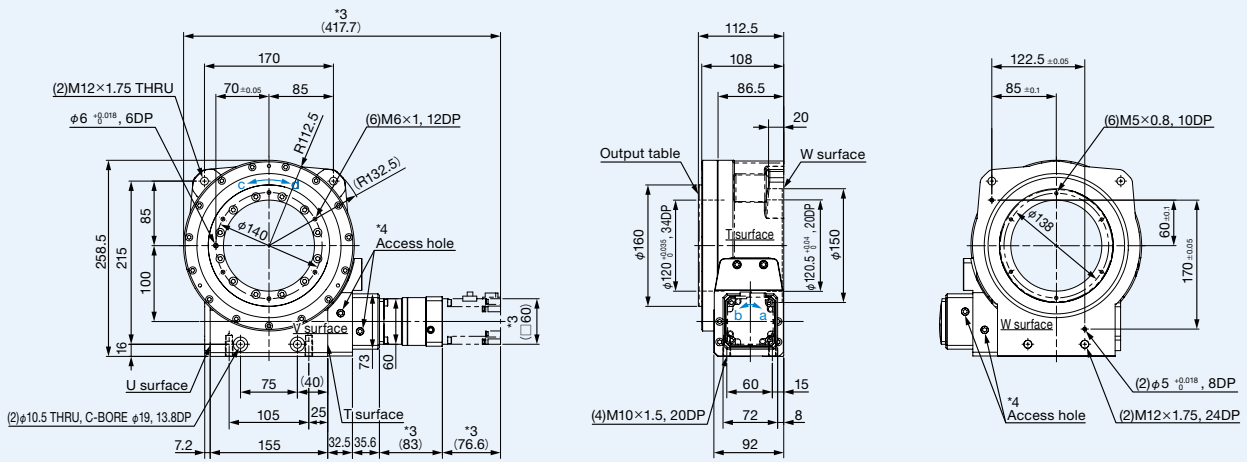
\*3 Dimensions in parentheses ( ) vary depending on the motor. \*4 There are two access holes on the V surface and two on the W surface.

11 \*5 Due to its mounting position, the positions of the oil plug, oil level, and drain differ for the oil lubrication type. See P. 16. \*6 The servo motor will need to be prepared by the customer.

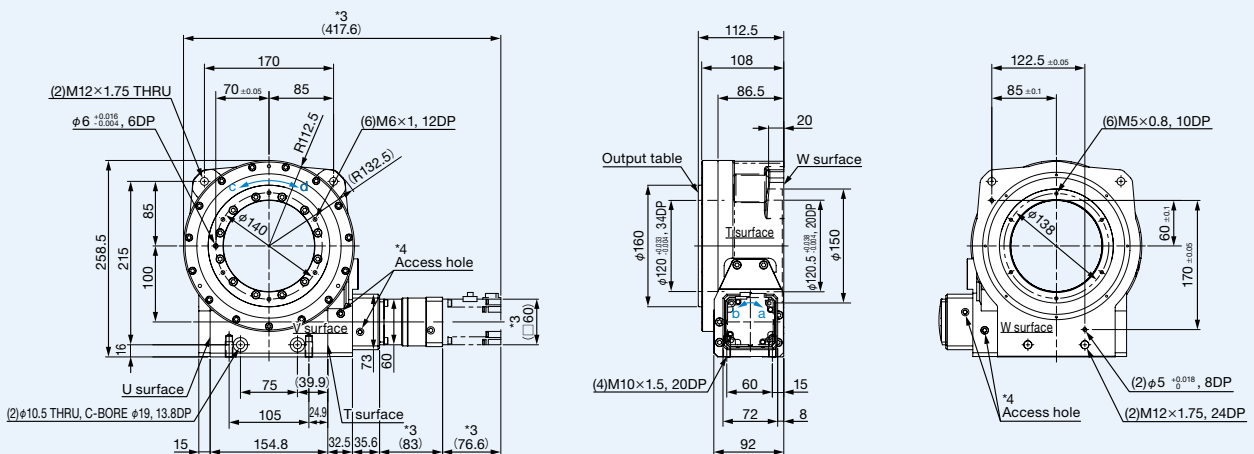


# RGR0100 Dimensions of High Gear Ratio Models

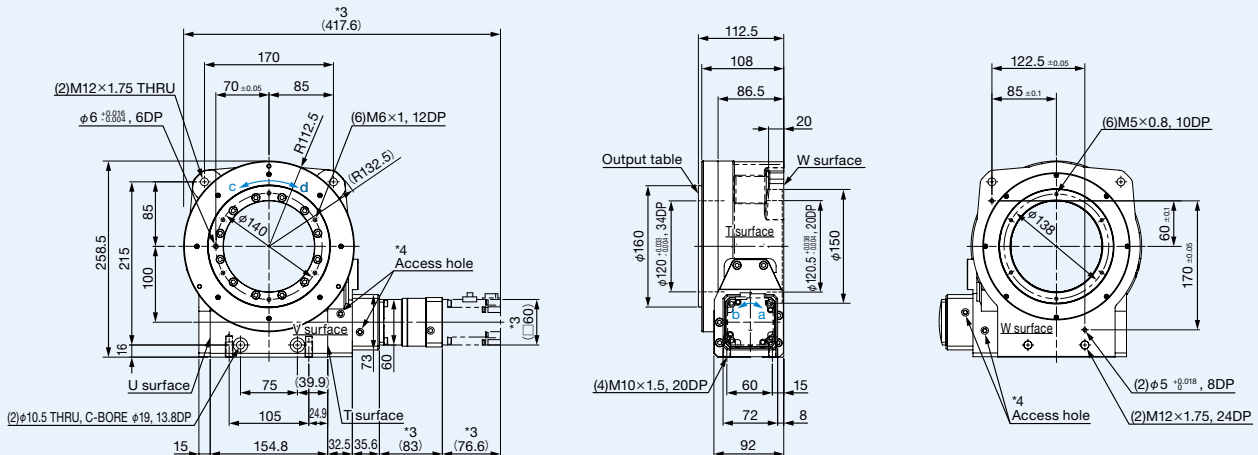
## Options: None



## Options: A



## Options: B



\*1 This drawing is for a model where the motor is mounted on the T surface. \*2 The rotating directions of input-output axes are related as a-d and b-c.

\*3 Dimensions in parentheses ( ) vary depending on the motor. \*4 There are two access holes on the V surface and two on the W surface.

\*5 Due to its mounting position, the positions of the oil plug, oil level, and drain differ for the oil lubrication type. See P. 16. \*6 The servo motor will need to be prepared by the customer. 12



## List of Mountable Servo Motors

### RGR063 Standard gear ratio model [Gear ratio = 30]

Manufacturer	Series	Model	Motor capacity [KW]	Motor rated torque [N · m]	Motor max. torque [N · m]	Rated rotation speed [min <sup>-1</sup> ]	Motor inertia [x10 <sup>-4</sup> kg · m <sup>2</sup> ]	Attachment code
OMRON	G	R88M-G40030H, T	0.4	1.3	3.67	3,000	0.26	CE
	G5	R88M-K40030H, T	0.4	1.3	3.8	3,000	0.26	CE
KEYENCE	SV	SV-M040	0.4	1.27	4.46	3,000	0.442	DE
	SV2	SV2-M040A	0.4	1.27	4.46	3,000	0.486	DE
Panasonic	MINAS_A5	MSMD042G1	0.4	1.3	3.8	3,000	0.26	CE
		MHMD042G1	0.4	1.3	3.8	3,000	0.67	CE
		MSME042G1	0.4	1.3	3.8	3,000	0.26	CE
	MINAS_A6	MSMF042L1	0.4	1.27	3.82	3,000	0.27	CE
MHMF042L1		0.4	1.27	4.46	3,000	0.56	CE	
FANUC	$\beta$ iS	$\beta$ iS1/6000	0.5	1.2	5	6,000	0.34	DE
Mitsubishi Electric	J4	HG-MR43	0.4	1.3	3.8	3,000	0.142	DE
		HG-KR43	0.4	1.3	4.5	3,000	0.371	DE
	J5	HK-KT43W	0.4	1.3	4.5	3,000	0.41	DE
		HK-KT63W	0.6	1.9	6.7	3,000	0.598	DE
		HK-KT43UW	0.4	1.3	4.5	3,000	0.726	EE
		HK-KT434W	0.2	1.3	4.5	1,500	0.41	DE
HK-KT634W	0.3	1.9	6.7	1,500	0.598	DE		
Yaskawa Electric	$\Sigma$ -7	SGM7J-04A	0.4	1.27	4.46	3,000	0.486	DE
		SGM7J-06A	0.6	1.91	6.69	3,000	0.8	DE
		SGM7A-04A	0.4	1.27	4.46	3,000	0.216	DE
		SGM7A-06A	0.6	1.91	6.69	3,000	0.315	DE
Sanyo Denki	R2	R2AA06040H	0.4	1.27	4.8	3,000	0.412	DE
		R2AA06040F	0.4	1.27	4.8	3,000	0.412	DE
	R5	R5AA06040H	0.4	1.27	4.8	3,000	0.414	DE
		R5AA06040F	0.4	1.27	4.8	3,000	0.414	DE

### RGR063 High gear ratio model [Gear ratio = 90, 150]

Manufacturer	Series	Model	Motor capacity [KW]	Motor rated torque [N · m]	Motor max. torque [N · m]	Rated rotation speed [min <sup>-1</sup> ]	Motor inertia [x10 <sup>-4</sup> kg · m <sup>2</sup> ]	Attachment code	Corresponding reduction ratio	
									90	150
OMRON	G	R88M-G10030H, T	0.1	0.32	0.9	3,000	0.051	AG	-	○
		R88M-G20030H, T	0.2	0.64	1.78	3,000	0.14	BJC	○	-
	G5	R88M-K10030H, T	0.1	0.32	0.95	3,000	0.051	AG	-	○
		R88M-K20030H, T	0.2	0.64	1.91	3,000	0.14	BJC	○	-
KEYENCE	SV	SV-M010	0.1	0.318	1.11	3,000	0.0665	AG	-	○
		SV-M020	0.2	0.637	2.23	3,000	0.259	BK	○	-
	SV2	SV2-M010A	0.1	0.318	1.11	3,000	0.0659	AG	-	○
		SV2-M020A	0.2	0.637	2.23	3,000	0.263	BK	○	-
Panasonic	MINAS_A5	MSMD012G1	0.1	0.32	0.95	3,000	0.051	AF	-	○
		MSMD022G1	0.2	0.64	1.91	3,000	0.14	BJC	○	-
		MHMD022G1	0.2	0.64	1.91	3,000	0.42	BJC	○	-
		MSME012G1	0.1	0.32	0.95	3,000	0.051	AF	-	○
	MINAS_A6	MSME022G1	0.2	0.64	1.91	3,000	0.14	BJC	○	-
		MSMF012L1	0.1	0.32	0.95	3,000	0.048	AF	-	○
		MSMF022L1	0.2	0.64	1.91	3,000	0.14	BJC	○	-
		MHMF012L1	0.1	0.32	1.11	3,000	0.071	AG	-	○
MHMF022L1	0.2	0.64	2.23	3,000	0.29	BJC	○	-		
Mitsubishi Electric	J4	HG-MR13	0.1	0.32	0.95	3,000	0.03	AG	-	○
		HG-MR23	0.2	0.64	1.9	3,000	0.0865	BM	○	-
		HG-KR13	0.1	0.32	1.1	3,000	0.0777	AG	-	○
		HG-KR23	0.2	0.64	2.2	3,000	0.221	BM	○	-
	J5	HK-KT13W	0.1	0.32	1.1	3,000	0.0686	AG	-	○
		HK-KT1M3W	0.15	0.48	1.7	3,000	0.0977	AG	○	-
		HK-KT13UW	0.1	0.32	1.1	3,000	0.121	BF	-	○
		HK-KT23W	0.2	0.64	2.2	3,000	0.209	BM	○	-
HK-KT23UW	0.2	0.64	1.9	3,000	0.419	DG	○	-		
Yaskawa Electric	$\Sigma$ -7	SGM7J-01A	0.1	0.318	1.11	3,000	0.0659	AG	-	○
		SGM7J-C2A	0.15	0.477	1.67	3,000	0.0915	AG	○	-
		SGM7J-02A	0.2	0.637	2.23	3,000	0.263	BK	○	-
		SGM7A-01A	0.1	0.318	1.11	3,000	0.0337	AG	-	○
		SGM7A-C2A	0.15	0.477	1.67	3,000	0.0458	AG	○	-
		SGM7A-02A	0.2	0.637	2.23	3,000	0.139	BK	○	-
		SGM7P-01A	0.1	0.318	0.955	3,000	0.0592	BE	-	○
SGM7P-02A	0.2	0.637	1.91	3,000	0.263	DF	○	-		
Sanyo Denki	R2	R2AA04010F	0.1	0.318	1.18	3,000	0.0627	AH	-	○
		R2AA06010F	0.1	0.318	1.13	3,000	0.117	BF	-	○
		R2AA06020F	0.2	0.637	2.2	3,000	0.219	BM	○	-
		R2AA08020F	0.2	0.637	2.2	3,000	0.52	DG	○	-
	R5	R5AA06020H	0.2	0.637	2.2	3,000	0.198	BM	○	-
		R5AA06020F	0.2	0.637	2.2	3,000	0.198	BM	○	-

\*1 The customer will be responsible for preparing a servo motor with no keyway.

\*2 Contact Sankyo for servo motors with brakes or with oil seals.

RGR080 Standard gear ratio model [Gear ratio = 36]

Manufacturer	Series	Model	Motor capacity [KW]	Motor rated torque [N · m]	Motor max. torque [N · m]	Rated rotation speed [min <sup>-1</sup> ]	Motor inertia [x10 <sup>-4</sup> kg · m <sup>2</sup> ]	Attachment code
OMRON	G	R88M-G40030H, T	0.4	1.3	3.67	3,000	0.26	CE
	G5	R88M-K40030H, T	0.4	1.3	3.8	3,000	0.26	CE
KEYENCE	SV	SV-M040	0.4	1.27	4.46	3,000	0.442	DE
	SV2	SV2-M040A	0.4	1.27	4.46	3,000	0.486	DE
Panasonic	MINAS_A5	MSMD042G1	0.4	1.3	3.8	3,000	0.26	CE
		MHMD042G1	0.4	1.3	3.8	3,000	0.67	CE
		MSME042G1	0.4	1.3	3.8	3,000	0.26	CE
	MINAS_A6	MSMF042L1	0.4	1.27	3.82	3,000	0.27	CE
		MHMF042L1	0.4	1.27	4.46	3,000	0.56	CE
FANUC	$\beta$ iS	$\beta$ iS1/6000	0.5	1.2	5	6,000	0.34	DE
Mitsubishi Electric	J4	HG-MR43	0.4	1.3	3.8	3,000	0.142	DE
		HG-KR43	0.4	1.3	4.5	3,000	0.371	DE
	J5	HK-KT43W	0.4	1.3	4.5	3,000	0.41	DE
		HK-KT63W	0.6	1.9	6.7	3,000	0.598	DE
		HK-KT43UW	0.4	1.3	4.5	3,000	0.726	EE
		HK-KT434W	0.2	1.3	4.5	1,500	0.41	DE
	HK-KT634W	0.3	1.9	6.7	1,500	0.598	DE	
Yaskawa Electric	$\Sigma$ -7	SGM7J-04A	0.4	1.27	4.46	3,000	0.486	DE
		SGM7J-06A	0.6	1.91	6.69	3,000	0.8	DE
		SGM7A-04A	0.4	1.27	4.46	3,000	0.216	DE
		SGM7A-06A	0.6	1.91	6.69	3,000	0.315	DE
Sanyo Denki	R2	R2AA06040H	0.4	1.27	4.8	3,000	0.412	DE
		R2AA06040F	0.4	1.27	4.8	3,000	0.412	DE
	R5	R5AA06040H	0.4	1.27	4.8	3,000	0.414	DE
		R5AA06040F	0.4	1.27	4.8	3,000	0.414	DE

RGR080 High gear ratio model [Gear ratio = 108, 180]

Manufacturer	Series	Model	Motor capacity [KW]	Motor rated torque [N · m]	Motor max. torque [N · m]	Rated rotation speed [min <sup>-1</sup> ]	Motor inertia [x10 <sup>-4</sup> kg · m <sup>2</sup> ]	Attachment code	Corresponding reduction ratio	
									108	180
OMRON	G	R88M-G10030H, T	0.1	0.32	0.9	3,000	0.051	AG	-	○
		R88M-G20030H, T	0.2	0.64	1.78	3,000	0.14	BJC	○	-
	G5	R88M-K10030H, T	0.1	0.32	0.95	3,000	0.051	AG	-	○
		R88M-K20030H, T	0.2	0.64	1.91	3,000	0.14	BJC	○	-
KEYENCE	SV	SV-M010	0.1	0.318	1.11	3,000	0.0665	AG	-	○
		SV-M020	0.2	0.637	2.23	3,000	0.259	BK	○	-
	SV2	SV2-M010A	0.1	0.318	1.11	3,000	0.0659	AG	-	○
		SV2-M020A	0.2	0.637	2.23	3,000	0.263	BK	○	-
Panasonic	MINAS_A5	MSMD012G1	0.1	0.32	0.95	3,000	0.051	AF	-	○
		MSMD022G1	0.2	0.64	1.91	3,000	0.14	BJC	○	-
		MHMD022G1	0.2	0.64	1.91	3,000	0.42	BJC	○	-
		MSME012G1	0.1	0.32	0.95	3,000	0.051	AF	-	○
	MINAS_A6	MSME022G1	0.2	0.64	1.91	3,000	0.14	BJC	○	-
		MSMF012L1	0.1	0.32	0.95	3,000	0.048	AF	-	○
		MSMF022L1	0.2	0.64	1.91	3,000	0.14	BJC	○	-
		MHMF012L1	0.1	0.32	1.11	3,000	0.071	AG	-	○
	MHMF022L1	0.2	0.64	2.23	3,000	0.29	BJC	○	-	
FANUC	$\beta$ iS	$\beta$ iS0.5/6000	0.35	0.65	2.5	6,000	0.18	BKA	○	-
Mitsubishi Electric	J4	HG-MR13	0.1	0.32	0.95	3,000	0.03	AG	-	○
		HG-MR23	0.2	0.64	1.9	3,000	0.0865	BM	○	-
		HG-KR13	0.1	0.32	1.1	3,000	0.0777	AG	-	○
		HG-KR23	0.2	0.64	2.2	3,000	0.221	BM	○	-
	J5	HK-KT13W	0.1	0.32	1.1	3,000	0.0686	AG	-	○
		HK-KT1M3W	0.15	0.48	1.7	3,000	0.0977	AG	○	-
		HK-KT13UW	0.1	0.32	1.1	3,000	0.121	BF	-	○
		HK-KT23W	0.2	0.64	2.2	3,000	0.209	BM	○	-
	HK-KT23UW	0.2	0.64	1.9	3,000	0.419	DG	○	-	
Yaskawa Electric	$\Sigma$ -7	SGM7J-01A	0.1	0.318	1.11	3,000	0.0659	AG	-	○
		SGM7J-C2A	0.15	0.477	1.67	3,000	0.0915	AG	○	-
		SGM7J-02A	0.2	0.637	2.23	3,000	0.263	BK	○	-
		SGM7A-01A	0.1	0.318	1.11	3,000	0.0337	AG	-	○
		SGM7A-C2A	0.15	0.477	1.67	3,000	0.0458	AG	○	-
		SGM7A-02A	0.2	0.637	2.23	3,000	0.139	BK	○	-
		SGM7P-01A	0.1	0.318	0.955	3,000	0.0592	BE	-	○
	SGM7P-02A	0.2	0.637	1.91	3,000	0.263	DF	○	-	
Sanyo Denki	R2	R2AA04010F	0.1	0.318	1.18	3,000	0.0627	AH	-	○
		R2AA06010F	0.1	0.318	1.13	3,000	0.117	BF	-	○
		R2AA06020F	0.2	0.637	2.2	3,000	0.219	BM	○	-
		R2AA08020F	0.2	0.637	2.2	3,000	0.52	DG	○	-
	R5	R5AA06020H	0.2	0.637	2.2	3,000	0.198	BM	○	-
		R5AA06020F	0.2	0.637	2.2	3,000	0.198	BM	○	-

\*1 The customer will be responsible for preparing a servo motor with no keyway.

\*2 Contact Sanyo for servo motors with brakes or with oil seals.



## List of Mountable Servo Motors

### RGR100 Standard gear ratio model [Gear ratio = 36]

Manufacturer	Series	Model	Motor capacity [KW]	Motor rated torque [N · m]	Motor max. torque [N · m]	Rated rotation speed [min <sup>-1</sup> ]	Motor inertia [x10 <sup>-4</sup> kg · m <sup>2</sup> ]	Attachment code
OMRON	G	R88M-G40030H, T	0.4	1.3	3.67	3,000	0.26	CE
	G5	R88M-K40030H, T	0.4	1.3	3.8	3,000	0.26	CE
Panasonic	MINAS_A5	MSMD042G1	0.4	1.3	3.8	3,000	0.26	CE
		MHMD042G1	0.4	1.3	3.8	3,000	0.67	CE
		MSME042G1	0.4	1.3	3.8	3,000	0.26	CE
FANUC	α iF	α iF2/5000	0.75	2	8.3	4,000	5.26	HC
		α iS2/5000	0.75	2	7.8	4,000	2.91	HC
	α iS	α iS2/6000	1	2	6	6,000	2.91	HC
		α iS4/6000	1	3	7.5	6,000	5.15	GG
	β iS	β iS2/4000	0.5	2	7	4,000	2.91	HC
Mitsubishi Electric	J4	HG-MR43	0.4	1.3	3.8	3,000	0.142	DE
		HG-MR73	0.75	2.4	7.2	3,000	0.586	FF
		HG-KR43	0.4	1.3	4.5	3,000	0.371	DE
	J5	HK-KT43W	0.4	1.3	4.5	3,000	0.41	DE
		HK-KT63W	0.6	1.9	6.7	3,000	0.598	DE
		HK-KT43UW	0.4	1.3	4.5	3,000	0.726	EE
		HK-KT7M3W	0.75	2.4	8.4	3,000	1.37	FF
		HK-KT7M3UW	0.75	2.4	8.4	3,000	2.11	IF
		HK-KT434W	0.2	1.3	4.5	1,500	0.41	DE
		HK-KT634W	0.3	1.9	6.7	1,500	0.598	DE
HK-KT7M34W	0.375	2.4	8.4	1,500	1.37	FF		
Yaskawa Electric	Σ -7	SGM7J-06A	0.6	1.91	6.69	3,000	0.8	DE
		SGM7A-06A	0.6	1.91	6.69	3,000	0.315	DE

### RGR100 High gear ratio model [Gear ratio = 108, 180]

Manufacturer	Series	Model	Motor capacity [KW]	Motor rated torque [N · m]	Motor max. torque [N · m]	Rated rotation speed [min <sup>-1</sup> ]	Motor inertia [x10 <sup>-4</sup> kg · m <sup>2</sup> ]	Attachment code	Corresponding reduction ratio	
									108	180
OMRON	G	R88M-G20030H, T	0.2	0.64	1.78	3,000	0.14	BJC	○	-
	G5	R88M-K20030H, T	0.2	0.64	1.91	3,000	0.14	BJC	○	-
KEYENCE	SV	SV-M020	0.2	0.637	2.23	3,000	0.259	BK	○	-
	SV2	SV2-M020A	0.2	0.637	2.23	3,000	0.263	BK	○	-
Panasonic	MINAS_A5	MSMD022G1	0.2	0.64	1.91	3,000	0.14	BJC	○	-
		MHMD022G1	0.2	0.64	1.91	3,000	0.42	BJC	○	-
		MSME022G1	0.2	0.64	1.91	3,000	0.14	BJC	○	-
	MINAS_A6	MSMF022L1	0.2	0.64	1.91	3,000	0.14	BJC	○	-
		MHMF022L1	0.2	0.64	2.23	3,000	0.29	BJC	○	-
Mitsubishi Electric	J4	HG-MR23	0.2	0.64	1.9	3,000	0.0865	BM	○	-
		HG-KR23	0.2	0.64	2.2	3,000	0.221	BM	○	-
	J5	HK-KT1M3W	0.15	0.48	1.7	3,000	0.0977	AG	-	○
		HK-KT23W	0.2	0.64	2.2	3,000	0.209	BM	○	-
		HK-KT23UW	0.2	0.64	1.9	3,000	0.419	DG	○	-
Yaskawa Electric	Σ -7	SGM7J-C2A	0.15	0.477	1.67	3,000	0.0915	AG	-	○
		SGM7J-02A	0.2	0.637	2.23	3,000	0.263	BK	○	-
		SGM7A-C2A	0.15	0.477	1.67	3,000	0.0458	AG	-	○
		SGM7A-02A	0.2	0.637	2.23	3,000	0.139	BK	○	-
		SGM7P-02A	0.2	0.637	1.91	3,000	0.263	DF	○	-
Sanyo Denki	R2	R2AA06020F	0.2	0.637	2.2	3,000	0.219	BM	○	-
		R2AA08020F	0.2	0.637	2.2	3,000	0.52	DG	○	-
	R5	R5AA06020H	0.2	0.637	2.2	3,000	0.198	BM	○	-
		R5AA06020F	0.2	0.637	2.2	3,000	0.198	BM	○	-

\*1 The customer will be responsible for preparing a servo motor with no keyway.

\*2 Contact Sanyo for servo motors with brakes or with oil seals.



# Oil Plug, Oil Level, Drain Position (Oil lubrication types)

Unit: mm

Mounting position	1	2	3	4	5
<b>RGR063</b>					
A	Oil plug Rc 1/4	Oil plug Rc 1/4	Oil plug Rc 1/4	Oil plug Rc 1/4	Oil plug Rc 1/4
A1	47	24	15°	25°	24
A2	—	—	36.5	36.5	—
B	Oil level	Oil level	Oil level	Oil level	Oil level
B1	36.5	36.5	28	94	30
B2	100	100	38	38	—
C	Drain Rc 1/4	Drain Rc 1/4	Drain Rc 1/4	Drain Rc 1/4	Drain Rc 1/4
C1	24	47	25°	15°	47
C2	—	—	36.5	36.5	—
Oil amount (L)	0.12	0.1	0.15	0.15	0.02
<b>RGR080</b>					
A	Oil plug Rc 3/8	Oil plug Rc 1/4	Oil plug Rc 3/8	Oil plug Rc 3/8	Oil plug Rc 1/4
A1	47	24	36.5	25°	24
A2	—	—	120	36.5	—
B	Oil level	Oil level	Oil level	Oil level	Oil level
B1	36.5	36.5	30.5	104.5	30
B2	120	120	38	38	52.5
C	Drain Rc 1/4	Drain Rc 3/8	Drain Rc 3/8	Drain Rc 3/8	Drain Rc 3/8
C1	24	47	25°	36.5	47
C2	—	—	36.5	120	—
Oil amount (L)	0.16	0.1	0.18	0.18	0.05
<b>RGR100</b>					
A	Oil plug Rc 3/8	Oil plug Rc 3/8	Oil plug Rc 3/8	Oil plug Rc 3/8	Oil plug
A1	58	33	44	25°	33
A2	—	—	146	44	—
B	Oil level	Oil level	Oil level	Oil level	Oil level
B1	44	44	30.5	124.5	41
B2	146	146	52	52	—
C	Drain Rc 3/8	Drain Rc 3/8	Drain Rc 3/8	Drain Rc 3/8	Drain
C1	33	58	25°	44	58
C2	—	—	44	146	—
Oil amount (L)	0.24	0.21	0.33	0.32	0.06

Attention: \_\_\_\_\_

Date: \_\_\_\_\_

Our contact person: \_\_\_\_\_

## Model Sizing Form for the **RollerDrive® RGR** series

Customer's Company, Department		Tel
Address		Fax
Name	Email	

A) Application

B) Overview drawing, loads, operating environment, etc.  
 (Include any tables, workpieces, or jigs that will be attached to the RGR output shaft, and any loads that will be applied during rotation.)

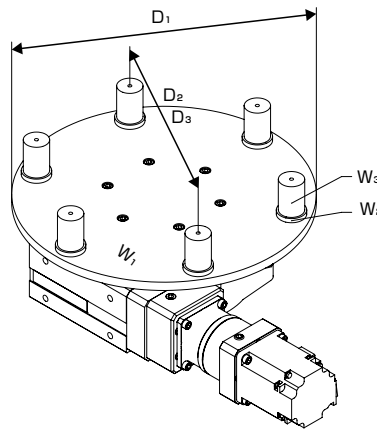
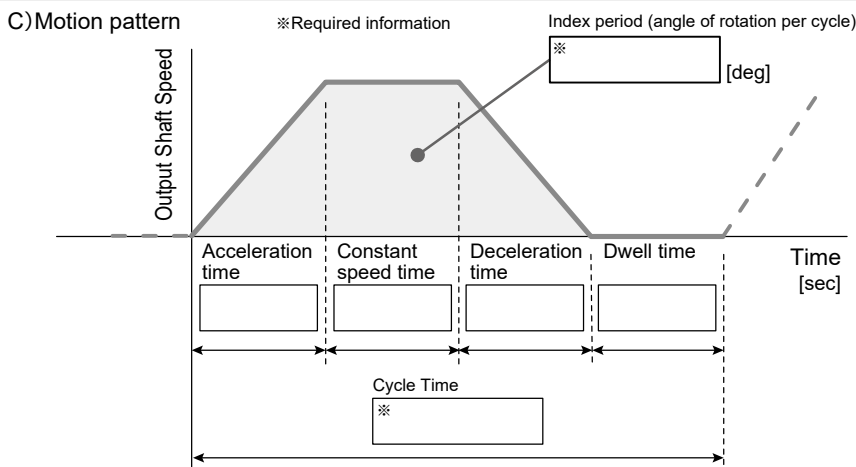


Table diameter : D <sub>1</sub>	[mm]
Table weight : W <sub>1</sub>	[kg]
Jig P.C.D. : D <sub>2</sub>	[mm]
Weight per jig : W <sub>2</sub>	[kg]
Jig quantity : n <sub>2</sub>	[pcs]
Workpiece P.C.D. : D <sub>3</sub>	[mm]
Weight per workpiece : W <sub>3</sub>	[kg]

Load applied to output shaft

Axial/radial load	Moment load	Workpiece quantity : n <sub>3</sub>
[N]	[N·m]	[pcs]



E) Intended servomotor

Manufacturer \_\_\_\_\_

Model No. \_\_\_\_\_

Motor power (rated output) \_\_\_\_\_ [kW]

F) Mounting direction of servomotor

T surface (right side viewed from front)

U surface (left side viewed from front)

Circle applicable answer.

G) Attachment code

D) Lubrication method and position/direction Please choose one.

Lubrication method :  Grease lubrication  Oil lubrication

Position/direction :  W surface toward bottom  U surface toward bottom  R surface toward bottom  V surface toward bottom  T surface toward bottom

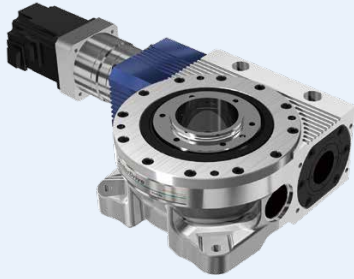
H) Options

None  A : Rustproof  B : Rustproof/dustproof/waterproof



## Positioner Lineup

### Standard model **RGV series**



#### ⟨Features⟩

- ▶ Varied lineup of reduction ratios and sizes
- ▶ Large torque from a compact servo motor
- ▶ Capable of handling heavy and uneven loads easily
- ▶ Usable under harsh conditions (rustproof, waterproof, and dustproof options)

#### ⟨Sizes⟩

- ▶ Axial distance: 40, 63, 80, 100, 125 (mm)

### Ultra-compact model **MR series**



#### ⟨Features⟩

- ▶ Ultra-compact zero-backlash positioner
- ▶ Maintenance free
- ▶ High freedom of motor selection
- ▶ Usable in any position/direction

#### ⟨Sizes⟩

- ▶ Axial distance: 20, 25, 32 (mm)

### Lightweight model **RA series**



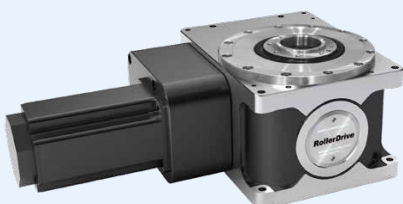
#### ⟨Features⟩

- ▶ Lightweight and compact
- ▶ The large-diameter hollow bore makes wiring and piping easy
- ▶ High accuracy and good efficiency
- ▶ Capable of handling uneven loads easily

#### ⟨Sizes⟩

- ▶ Axial distance: 40, 63, 80, 100, 125 (mm)

### High-rigidity model **RU series**



#### ⟨Features⟩

- ▶ High load driving force from a compact servo motor
- ▶ High rigidity
- ▶ High freedom of servo motor selection
- ▶ Usable under harsh conditions (waterproof and dustproof options)

#### ⟨Sizes⟩

- ▶ Axial distance: 40, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500 (mm)

## ▶ Installation Site

The RollerDrive products with standard specifications should be installed in locations where they can be easily checked and maintained. Specifically:

- Environment temperature from 5 to +40°C  
Depending on the operation pattern, the product surface temperature may rise because of heating in the motor or the product itself. Ensure cooling to 60°C or less using a fan or the like.
- Humidity under 85% (no condensation)
- Non vacuum or extreme pressure
- No exposure to water, oil, chemicals, dusts, etc.
- No existence of explosive gas, other hazardous gas, or radio active materials
- No direct sunlight
- Excessive shock or force does not act
- Minimal electromagnetic noise, and isolated from currents (Take particular care near welders, etc.).
- Minimum electro magnetic noise (be cautious on welding machines)

## ▶ Installation Procedure

The RollerDrive should be put in the operating position and installed on a smooth, robust place. After installing the main unit, attach the drive target to the output flange.

Tightening torque (Table 1)

Tightening torque (Table 2)

Housing threads (aluminum)

Unit : N·m

Output shaft threads (iron-based)

Unit : N·m

Thread size	Specified tightening torque (DIN6.8)
M8	18.5
M10	36.0
M12	63.0

Thread size	Specified tightening torque (DIN10.9)
M4	4.1
M5	8.5
M6	14.0

To prevent the bolts from loosening inadvertently, apply Loctite 242 or equivalent and use a torque wrench to apply the specified torque. (Refer to the tables on the left for the tightening torque.)

## ▶ Lubrication

RGR series products are available in one of two lubrication methods: Grease lubrication, which is the basic specification, or oil lubrication, which allows for high-speed rotation.

### • Grease lubrication

Units are generally maintenance-free, eliminating the need for regular grease replacement. (Please contact Sankyo for any questions about lubrication.)

**Lubricating grease: Epnoc grease AP (N) 2 from ENEOS Corporation**

### • Oil lubrication

Units use high-performance oil for lubrication. Although the oil used for lubrication is scientifically and thermally stable, change the oil after every 3,000 hours of operation to ensure a longer product service life. The oil level indicator can be used to check the condition of the lubricating oil. Stop operation before checking the condition.

Check the amount and color of the oil. If the oil amount has decreased, or if discoloration is found, replace the oil regardless of the operating time. Note that fine bubbles may appear in the oil during operation. This does not indicate a problem with the oil quality.

\* When changing the oil, use only the lubricating oil specified below.

Using an oil other than the one specified below for lubrication may shorten the product's service life or cause the components to deteriorate.

**Specified standard lubricating oil: Mobil SHC629 (VG150)**

Please refer to the instruction manual for product handling details.

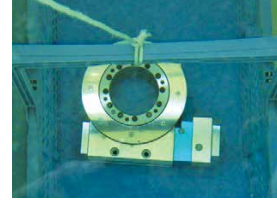
## Handling

### ▶ Rustproof/dustproof/waterproof specifications

Rustproof/dustproof/waterproof specifications are available protection options for RGR series units.

Following tests conducted under IP67 testing conditions (IEC 60529), TÜV Rheinland Japan Ltd., has confirmed that the RGR series housing is waterproof and dustproof.

(Tests were performed with the RGR063.)



IP is the abbreviation for International Protection, which indicates

the degree of protection necessary to prevent foreign matter (steel balls, copper wires, dust, water, etc.) from entering the housing of electrical or mechanical products. A rating of IP6X indicates complete protection against dust, and IPX7 indicates that there is no intrusion of water even if a product is submerged in water at a specified pressure (at 15 cm to 1 m below the surface) for a certain amount of time (at least 30 minutes).

- A rustproof/dustproof/waterproof rating is not a guarantee against malfunction or for a specific operational lifetime.
- Units are not protected from the intrusion of all solids and liquids under all environments.
- RGR series units are rated IP54 or equivalent unless the dustproof/waterproof option is specified.

### ⚠ Limitations on the use of this product

- This product cannot be used in applications where operation of the product has a direct impact in human life, or can cause bodily harm to people.

The scope of these use limitations includes the following applications:

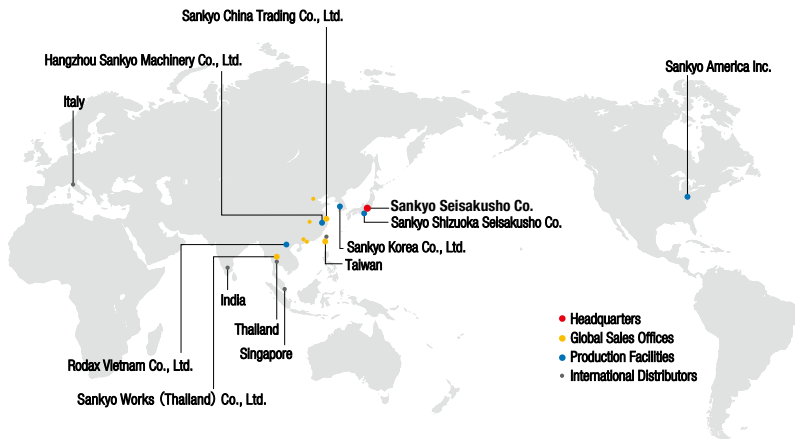
- . Medical equipment
- . Nuclear power related equipment
- . Aerospace equipment
- . Equipment for handling explosive, corrosive or toxic substances etc.

- Please consult with our company if you are considering use in one of the above applications.
- If there is a possibility that this product will be used in a final use location outside Japan, in weapons or equipment for weapon manufacture, then it may be subject to regulation due to the Foreign Exchange and Foreign Trade Control Law. Please take extra care with regard to the application and region of use, and properly submit applications and follow procedures if necessary.

### ⚠ Notes on information

- Specifications, dimensions and other information relating to this product provided in this catalog are subject to change without prior notice.
- The information in this catalog is current as of January 2022.
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