



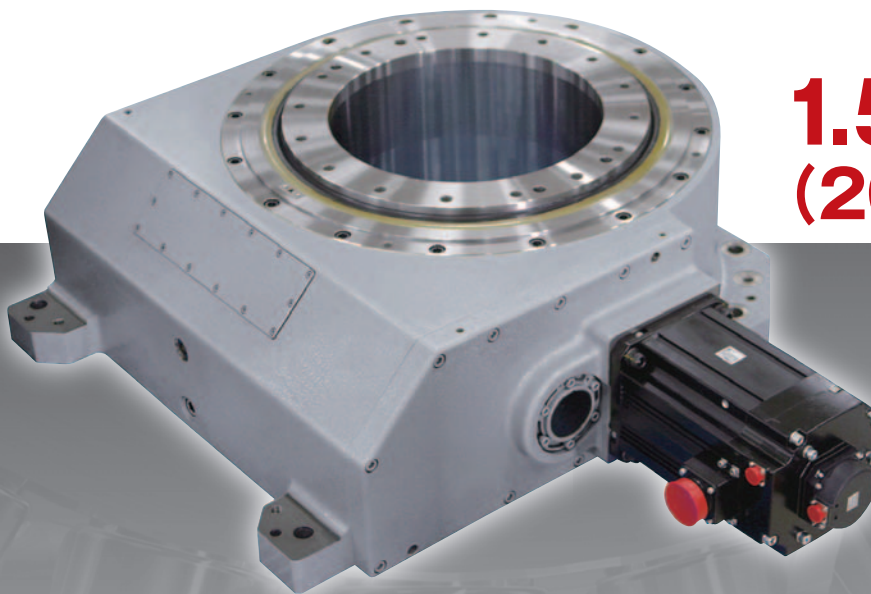
**SANKYO**  
SEISAKUSHO CO.

RollerDrive RW

High-speed Rotary Positioner for Welding Machines

**RollerDrive<sup>®</sup>**

**RW series**

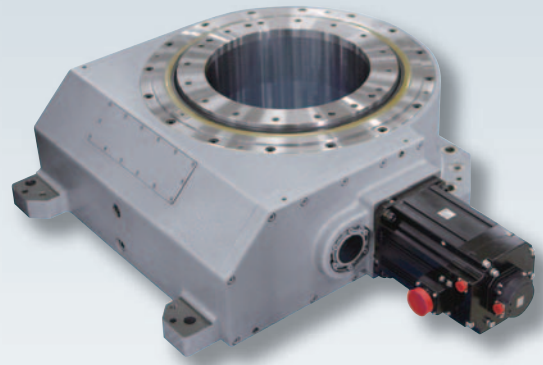


**1.5 sec/180°  
(2000kg)\***

\*With a moment of inertia of 600kg/m<sup>2</sup>.

# Sankyo's Rotary Positioner for Welding Machines Offers Unsurpassed Speed and Durability

The RollerDrive RW Series is a positioner for welding machines. It holds up against shocks that are caused by high-speed positioning and emergency stopping of heavy loads. The oversized hollow output shaft simplifies wiring and plumbing to the equipment to be mounted on the output shaft. The low-profile body allows for compact equipment design.



## Features of the RW Series

- Super high-speed positioning (180° indexing time) : 1.5 sec/2000 kg [RW320]  
※With a moment of inertia of 600 kg/m<sup>2</sup>.
- Oversized hollow shaft 360 mm [RW320]
- Thin-profile body 295 mm [RW320]
- Tough against impact from emergency stops

## Theory of Operation

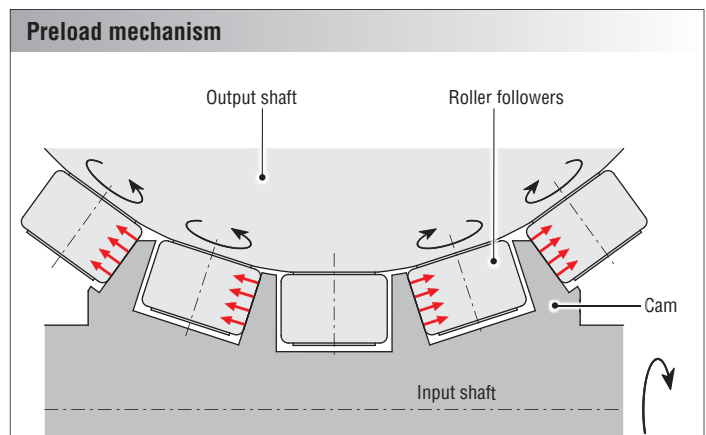
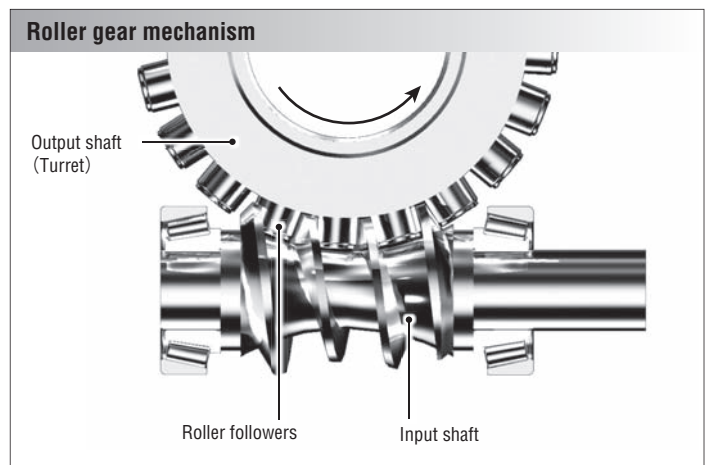
The RollerDrive is a positioner that uses a roller gear mechanism, one of the finest motion control mechanisms available. The unit consists of an input shaft (roller gear cam) and a turret (output shaft) that are equipped with roller followers.

The roller followers are preloaded by the screw on the input shaft, to eliminate backlash. Our proprietary adjustment mechanism provides the optimum preload.

The roller followers in the turret use internal roller bearings to transfer torque while rotating.

This mechanism ensures zero backlash, precision, and efficiency while preventing wear. It also provides long-term, consistent accuracy.

The servomotor drive delivers unparalleled, ultimate motion control.



# Model Code

## Model Code **RW 240 - 120 R 1 T A R**

①                      ②                      ③                      ④                      ⑤                      ⑥                      ⑦                      ⑧

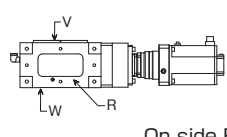
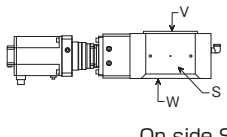
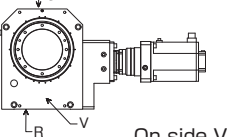
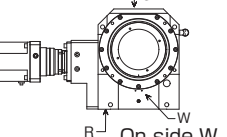
① Model	② Size	③ Gear ratio	④ Position of input reducer access hole	⑤ Mounting position	⑥ Servomotor position	⑦ Type of servomotor	⑧ Connector position on servomotor
RW	170	72 216 (High gear ratio※)	R S V W Z: For gear ratios 72 and 120	1  5  9: Special order	T: Standard Mounts on right side U: Mounts on left side	A B D E F X	R: Special order S: Special order V: Special order W: Special order Z: Standard Customer to mount servomotor
	240	120 360 (High gear ratio※)			T: Standard Mounts on right side		
	320						

※ Input gear reducer is mounted on models with high gear ratios.

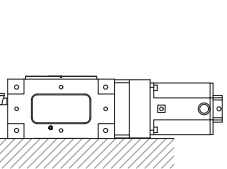
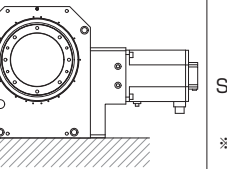
### ③ Input reducer

Manufacture	Model No.	Gear ratio	Weight
NIDEC-SHIMPO CORPORATION	VRS-100C-3-S3-38KA35	1/3	8.1kg
	VRS-140C-3-S3-48KA42 ※RW320/Special for Yaskawa Electric motors	1/3	17kg

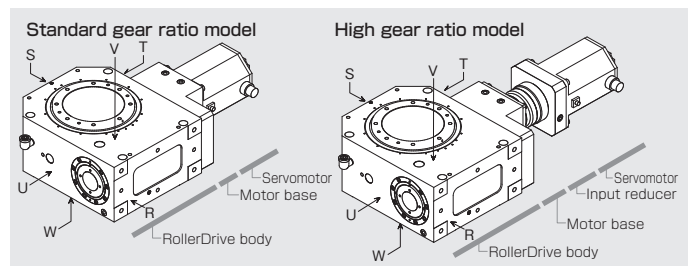
### ④ Position of input reducer access hole

R	S	V	W	Z
 On side R	 On side S	 On side V	 On side W	For gear ratios 72 and 120

### ⑤ Mounting position

1	5	9
		Special order ※Ask Sankyo.
W surface on bottom	R surface on bottom	

### RollerDrive Surfaces



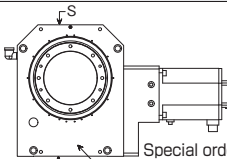
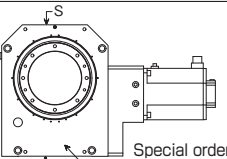
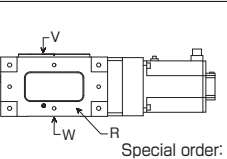
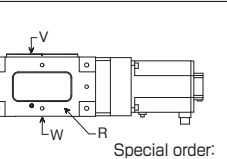
※ Shown with servo motor on "T" surface

### ⑦ Type of servomotor

Code	Model	Manufacture	Model No.	Capacity (kw)
A	RW170	Yaskawa Electric (Σ-V)	SGMGV-30A3A2E	2.9
	RW240		SGMGV-44A3A2E	4.4
	RW320		SGMGV-75A3A2E	7.5
B	RW170	Yaskawa Electric (Σ-7)	SGM7G-30A7A2E	2.9
	RW240		SGM7G-44A7A2E	4.4
	RW320		SGM7G-75A7A2E	7.5
D	RW170	Mitsubishi Electric (J4)	HG-SR352BJ	3.5
	RW240		HG-SR502BJ	5.0
	RW320		HG-SR702BJ	7.0
E	RW170	FANUC	αiF12/4000-B (A06B-2243-B400)	3.0
	RW240		αiF22/4000-B (A06B-2248-B400)	4.0
	RW320		αiF30/4000-B (A06B-2253-B400)	7.0
F	RW170	Mitsubishi Electric (J5)	HK-ST352WBJ	3.5
	RW240		HK-ST502WBJ	5.0
	RW320		HK-ST702WBJ	7.0
X	Same for all sizes		Motor not listed above	

※ The motor listed above comes with a brake.

### ⑧ Connector position on servomotor

R	S	V	W	Z
				Standard: Customer to mount servomotor
Special order: On side R	Special order: On side S	Special order: On side V	Special order: On side W	

# RollerDrive Specifications

Sizes		RW170		RW240		RW320	
Allowable loading capacity	kg	2000		5000		9000	
Allowable moment load output shaft	N·m	5500		8800		10700	
Output shaft runout (axial/radial)	μm or less	10		10		10	
Angular repeatability accuracy	mm	±0.05(R=1000mm)		±0.05(R=1000mm)		±0.05(R=1000mm)	
Rotating Angle	deg	0~360		0~360		0~360	
Gear ratio		72	216	120	360	120	360
Maximum Speed	min <sup>-1</sup>	35(210°/sec)	13.8(83.3°/sec)	25(150°/sec)	8.3(50°/sec)	25(150°/sec)	8.3(50°/sec)
Internal moment of inertia on motor shaft	kg·m <sup>2</sup>	0.00388	0.00173	0.00614	0.00198	0.0118	0.00261
Weight (Motor not included)	kg	120	128.1	400	408.1	650	658 (667)*

\*Weight for RW320 (high gear ratio) Yaskawa Motor.

## RW170

※Table size:1000mm×700mm

180° Indexing time	Weight of load	Moment of inertia
1.5sec	700kg	86.9kg·m <sup>2</sup>
2.0sec	1000kg	124.2kg·m <sup>2</sup>
3.0sec	2000kg	248.3kg·m <sup>2</sup>

## RW240

※Table size:1500mm×1000mm

180° Indexing time	Weight of load	Moment of inertia
1.5sec	1200kg	325kg·m <sup>2</sup>
2.0sec	2000kg	541.7kg·m <sup>2</sup>
3.0sec	5000kg	1354.2kg·m <sup>2</sup>

## RW320

※Table size:2000mm×1400mm

180° Indexing time	Weight of load	Moment of inertia
2.0sec	2000kg	993.3kg·m <sup>2</sup>
3.0sec	4000kg	1986.7kg·m <sup>2</sup>
4.5sec	9000kg	4470kg·m <sup>2</sup>

## ●Oil lubrication

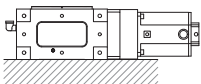
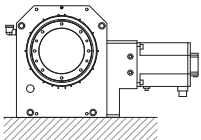
These units use high-performance lubrication oil. The lubrication oil will remain chemically and thermally stable, but should be replaced every 3,000 hours of operation to prolong the life of the unit. Use the oil level gauge to check the condition of the lubrication. Check lubrication when the unit has stopped. If the oil appears low or discolored, change it with fresh oil regardless of the hours of operation. Occasionally, air bubbles may form in the oil during operation but this is natural and not a quality concern.

※:Use the following lubricant for refill.

**Standard lubricant: Mobil SHC629 (VG150)**

Use of different oil can cause wearing or other problems.

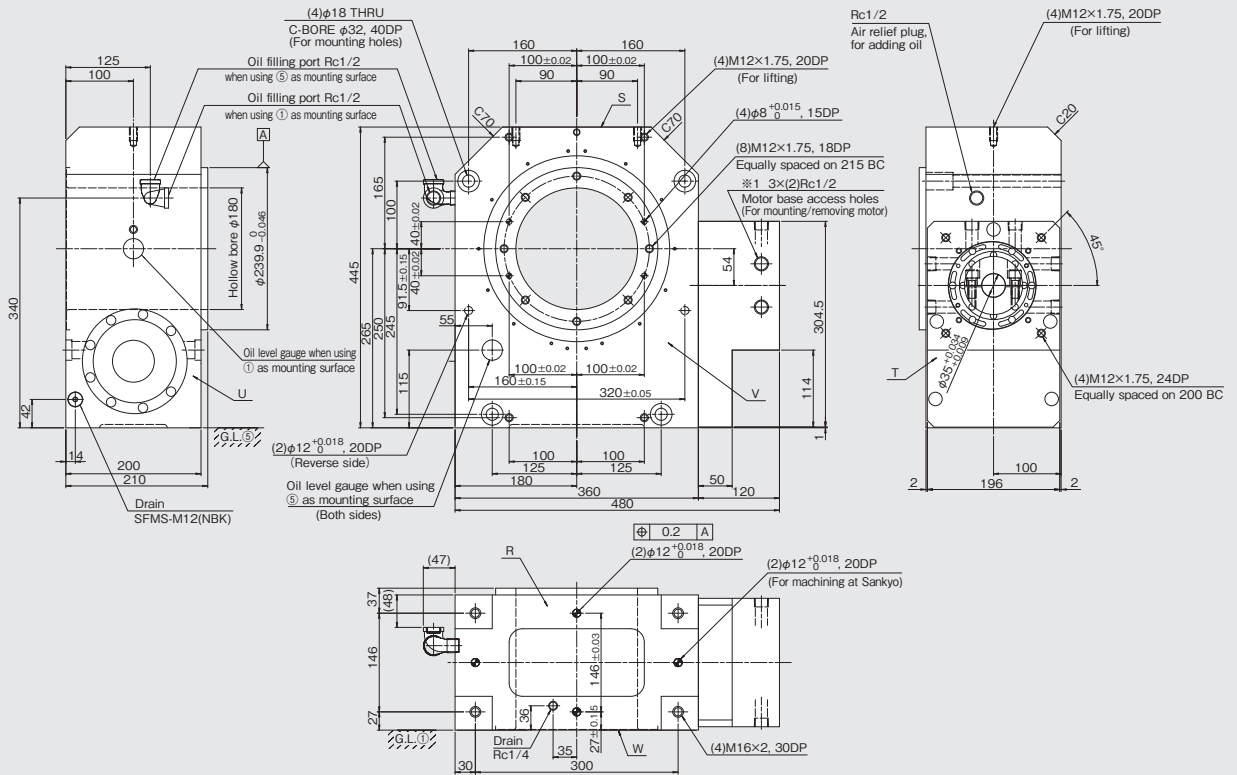
## Oil Volume by Mounting Positions

Mounting position	1	5	9
	 W surface on bottom	 R surface on bottom	Special order
RW170	3ℓ	3ℓ	Ask Sankyo.
RW240	6ℓ	7ℓ	
RW320	15ℓ	14ℓ	

# Dimension drawings

## RW170 Standard Gear Ratio Model [Gear ratio=72]

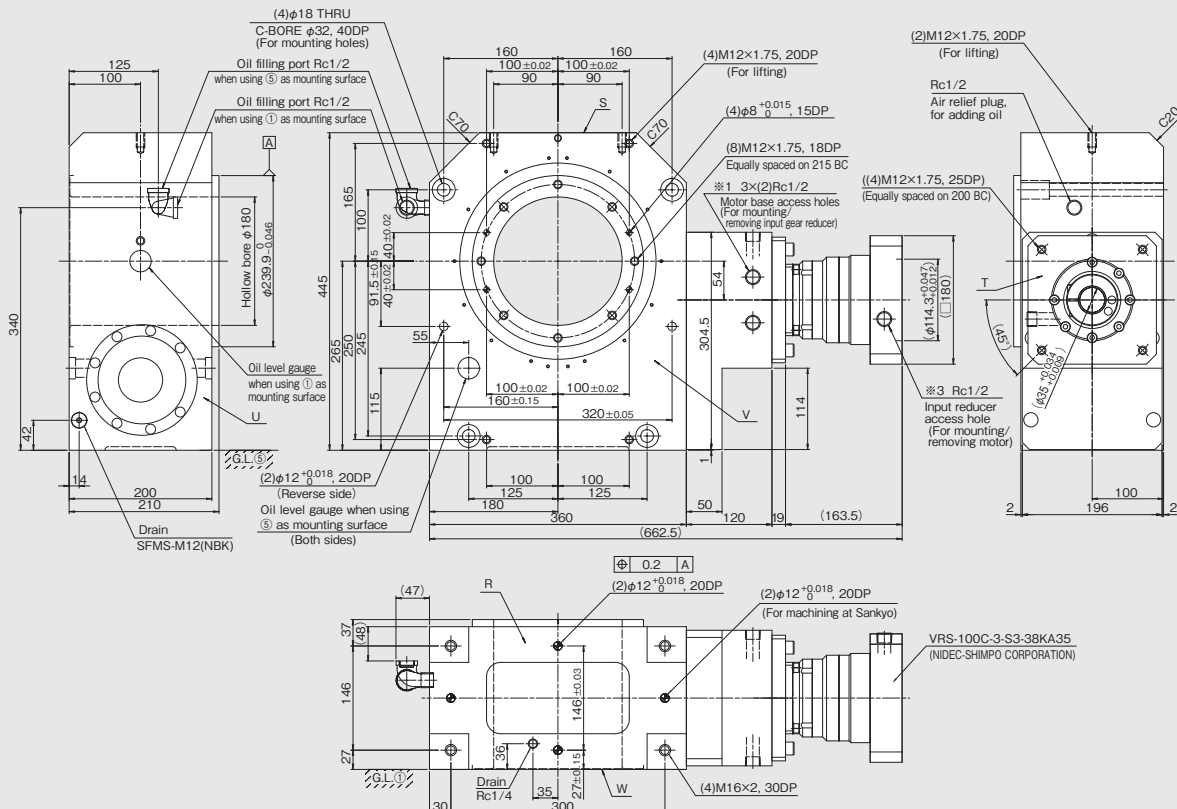
Unit : mm



※1 Motor base access holes are not provided on side R.  
※2 \*2: The customer must supply their own servo motor.

## RW170 High Gear Ratio Model [Gear ratio=216]

Unit : mm

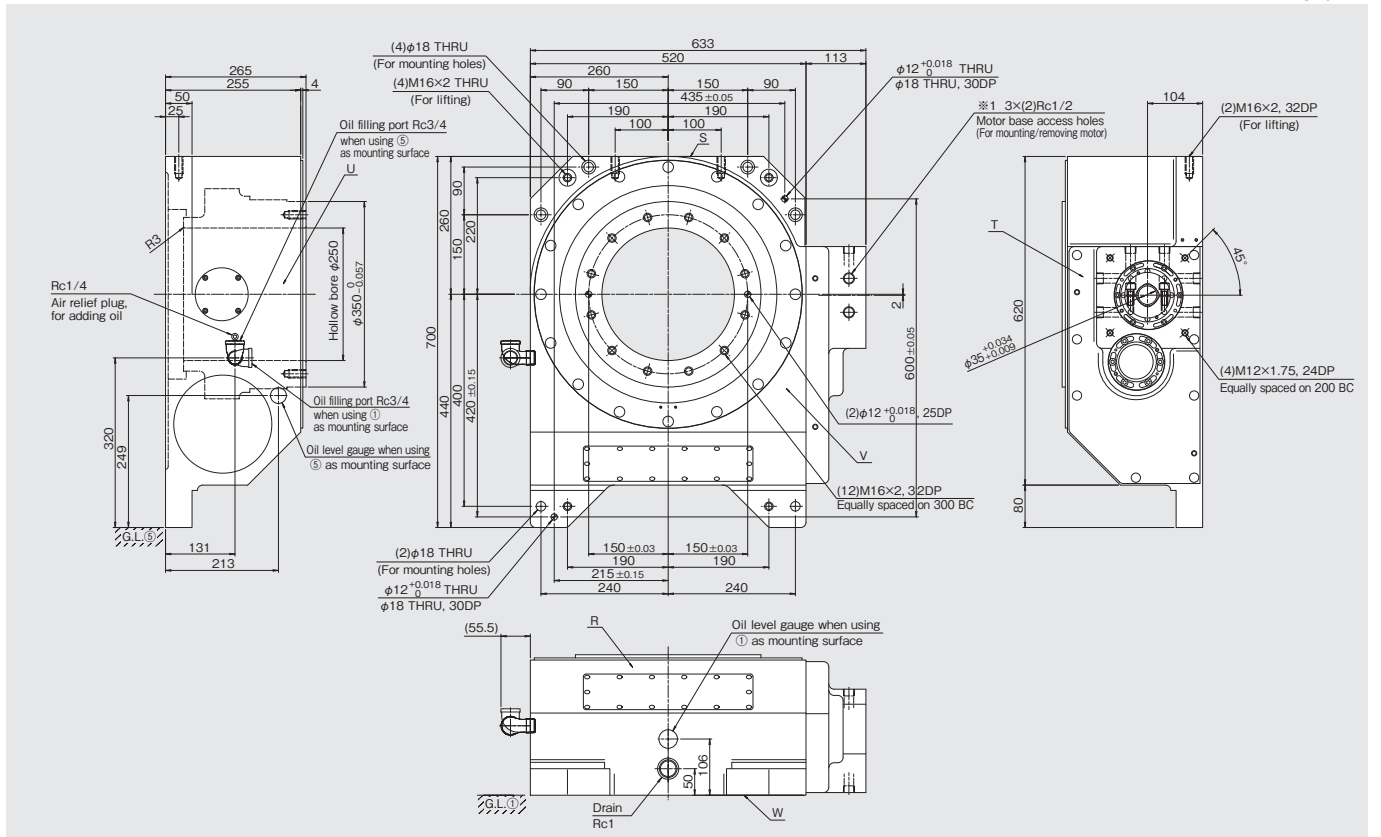


※1 Motor base access holes are not provided on side R.  
※2 \*2: The customer must supply their own servo motor.  
※3 Use the product code to specify the position  
of the access hole for the input reducer. (Refer to P.2)

# Dimension drawings

## RW240 Standard Gear Ratio Model [Gear ratio=120]

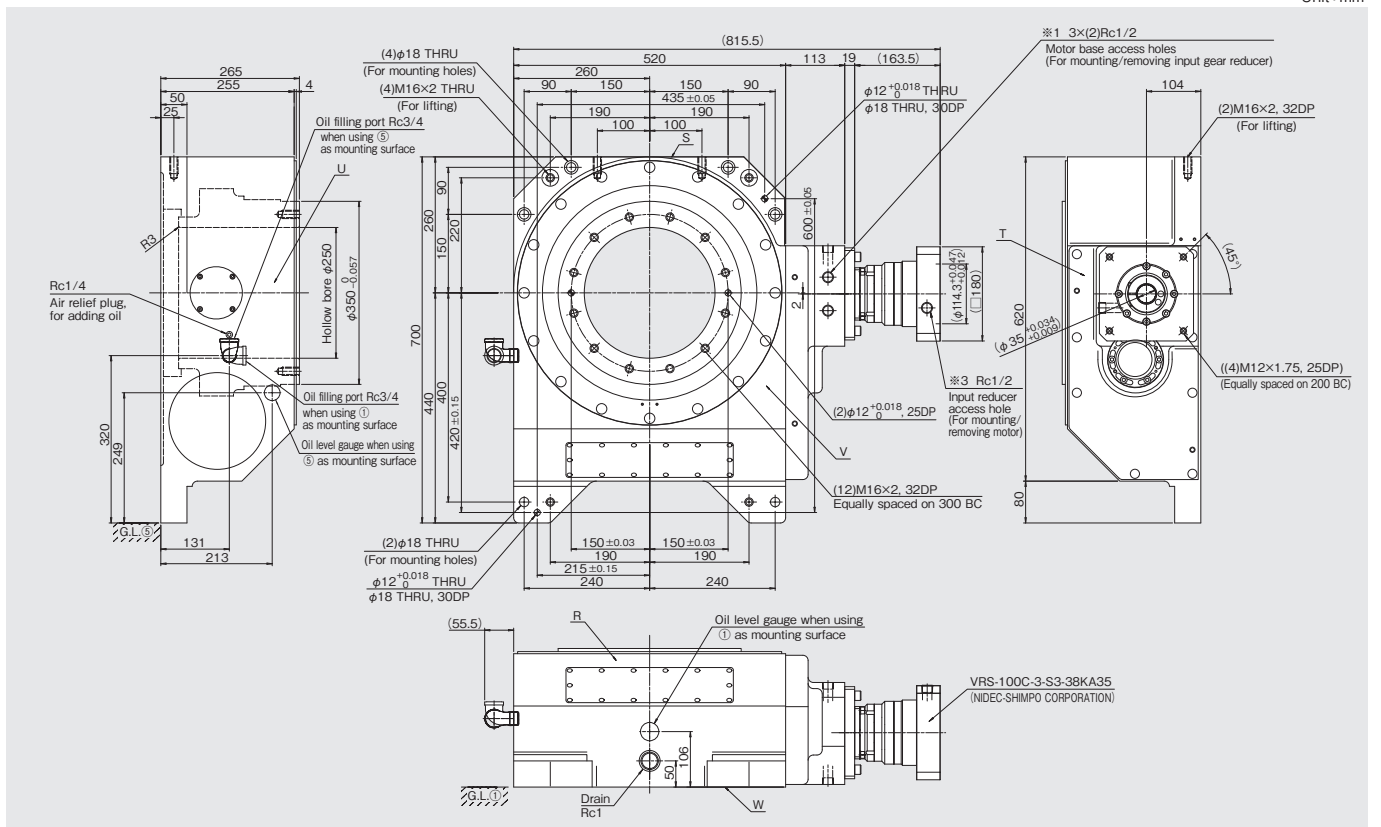
Unit : mm



- ※1 Motor base access holes are not provided on side R.
- ※2 The customer must supply their own servo motor.

## RW240 High Gear Ratio Model [Gear ratio=360]

Unit : mm

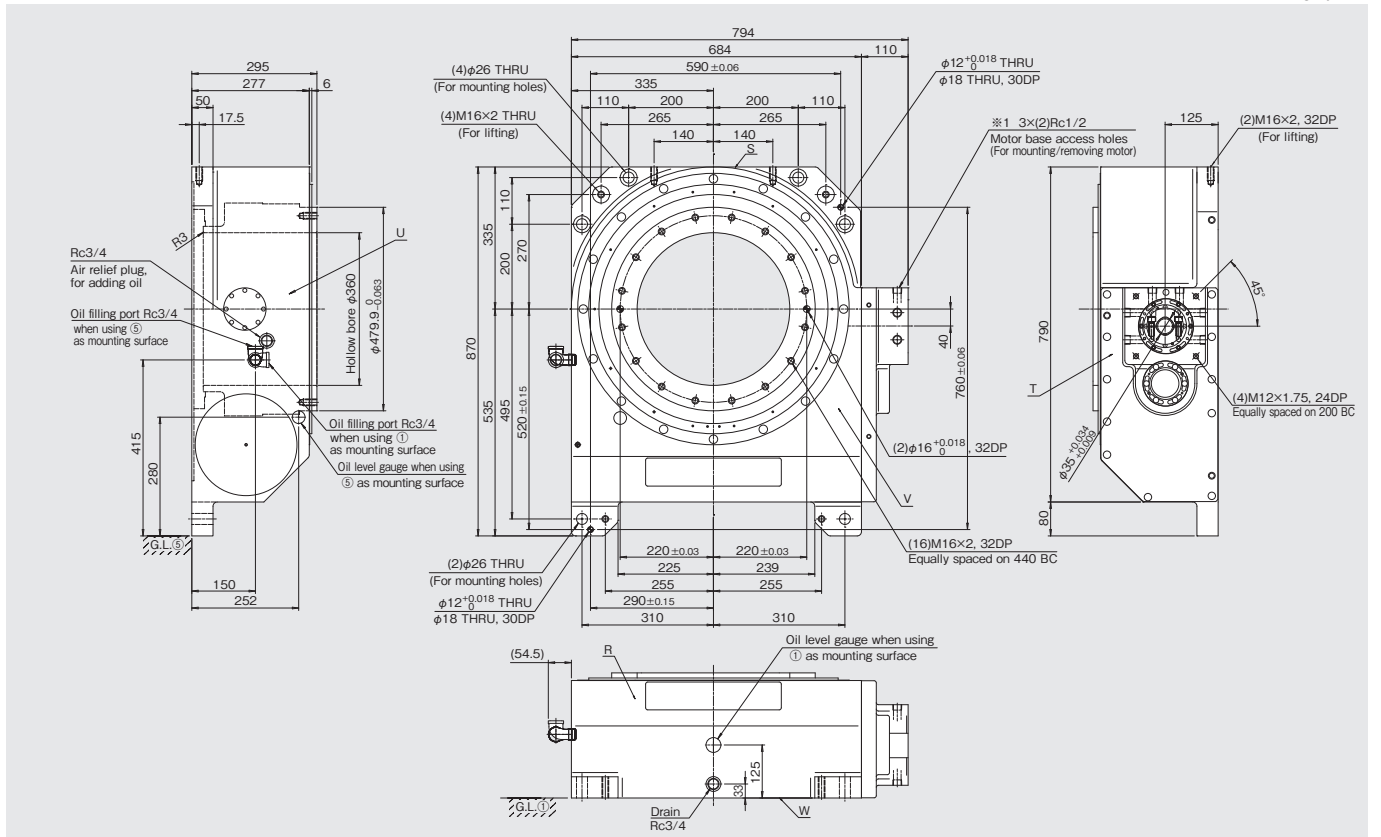


- ※1 Motor base access holes are not provided on side R.
- ※2 The customer must supply their own servo motor.
- ※3 Use the product code to specify the position of the access hole for the input reducer. (Refer to P.2)

# Dimension drawings

## RW320 Standard Gear Ratio Model [Gear ratio=120]

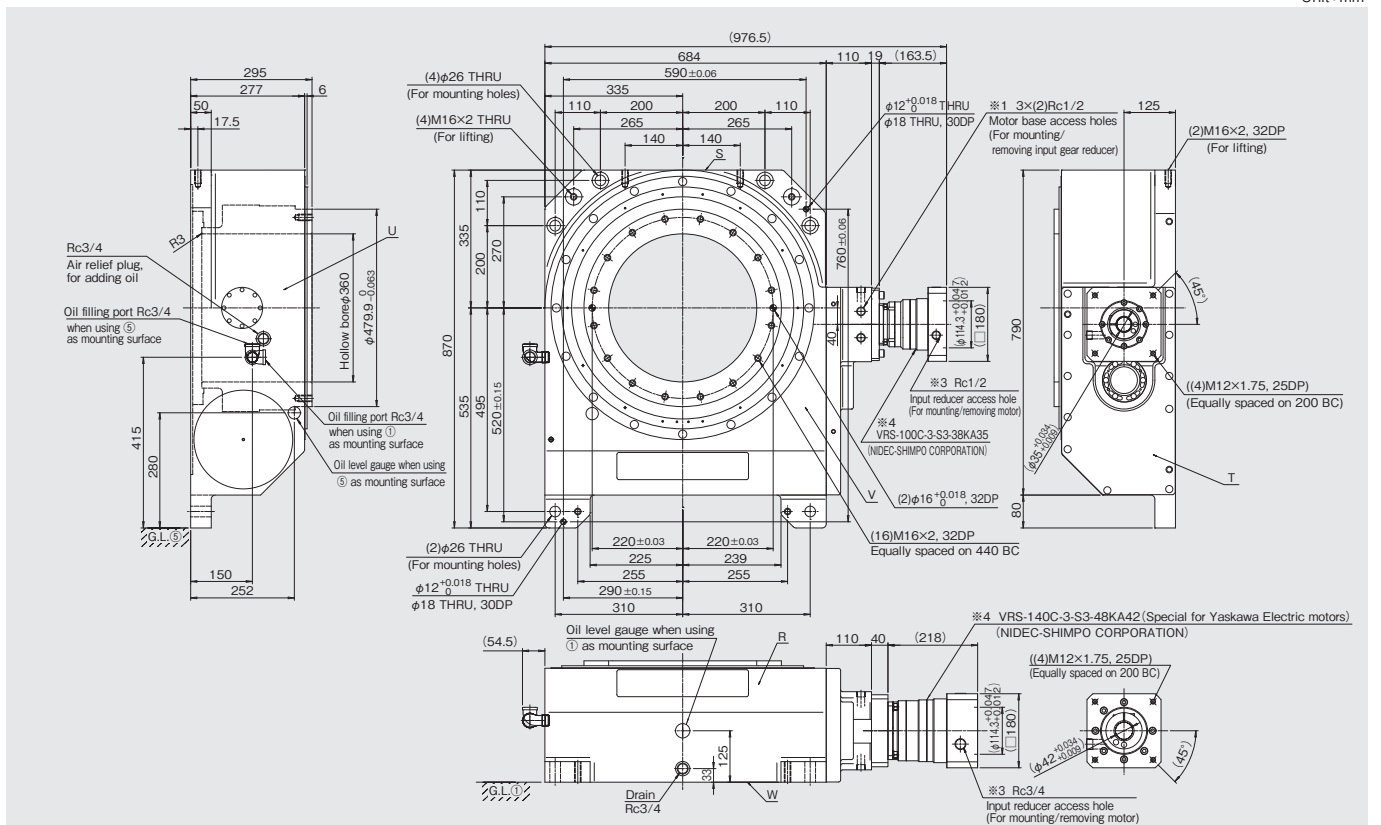
Unit : mm



- ※1 Motor base access holes are not provided on side R.
- ※2 The customer must supply their own servo motor.

## RW320 High Gear Ratio Model [Gear ratio=360]

Unit : mm



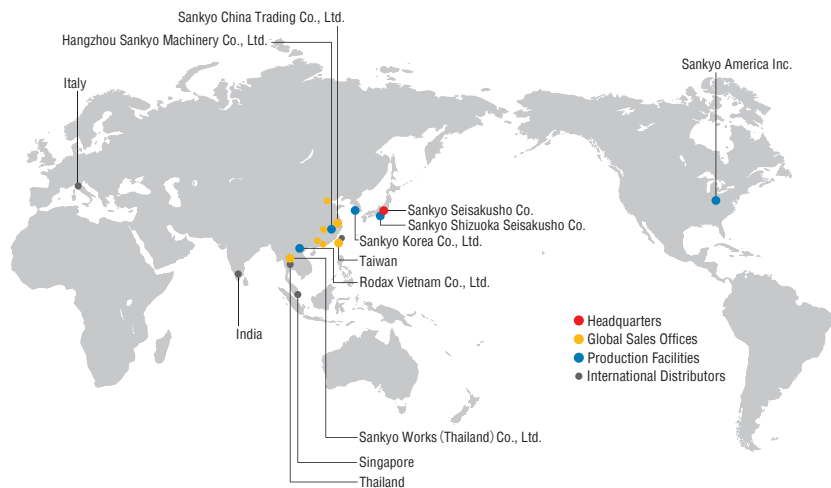
- ※1 Motor base access holes are not provided on side R.
- ※2 The customer must supply their own servo motor.
- ※3 Use the product code to specify the position of the access hole for the input reducer. (Refer to P.2)
- ※4 The model number and dimensions of the input reducer depends on the manufacturer of the motor. (Refer to P.2)

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

<b>Model Sizing Form for the <i>RollerDrive</i><sup>®</sup> RW series</b>	
Customer's Company, Department	TEL
Address	FAX
Name	Email
<b>A ) Application</b>	
<b>B ) Overview drawing, loads, operating environment, etc.</b> (Draw a sketch of the table, workpieces, fixtures, etc., to mount on the output shaft of the RW, and indicate any loads that will occur during rotation.)	Table diameter [mm]
	Table mass [kg]
	P.C.D of fixtures [mm]
	Mass per fixture [kg]
	Number of fixtures [pcs.]
	P.C.D of workpieces [mm]
	Mass per workpiece [kg]
	Number of workpieces [pcs.]
	Total payload [kg]
	Total moment of inertia [kg·m <sup>2</sup> ]
<b>C ) Motion pattern</b> Index period (angle of rotation per cycle) [deg]	
Indexing time (time to move the indexing angle) [sec]	
Dwell time [sec]	
Cycle Time (Indexing time + Dwell time) [sec]	
Allowable e-stop time or angle [sec] [deg]	
<b>D ) Specified servomotor</b> <input type="checkbox"/> Yaskawa Electric (Σ - V) <input type="checkbox"/> Yaskawa Electric (Σ - 7) <input type="checkbox"/> Mitsubishi Electric (J4) <input type="checkbox"/> FANUC <input type="checkbox"/> Mitsubishi Electric (J5) <input type="checkbox"/> Other models ( _____ ) <div style="text-align: right;">Choose one</div>	

RW-2021/05E-S

## Global network



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