

# RF02-N

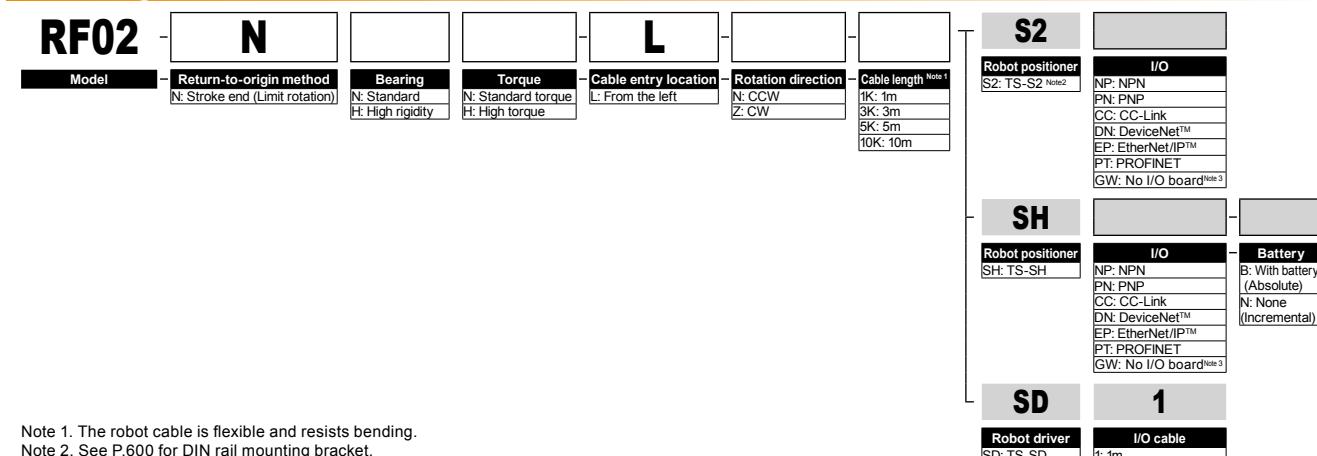
Rotary type / Limit rotation specification



● CE compliance

● Rotation range : 310°

## Ordering method



Note 1. The robot cable is flexible and resists bending.

Note 2. See P.600 for DIN rail mounting bracket.

Note 3. Select this selection when using the gateway function.

## Basic specifications

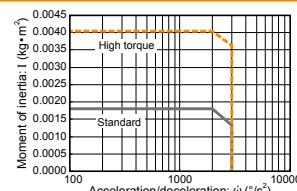
<b>Motor</b>	20 □ Step motor
<b>Resolution (Pulse/rotation)</b>	4096
<b>Repeatability Note 1 (")</b>	+/-0.05
<b>Drive method</b>	Special worm gear + belt
<b>Torque type</b>	Standard   High torque
<b>Maximum speed Note 2 (/sec)</b>	420   280
<b>Rotating torque (N·m)</b>	0.22   0.32
<b>Max. pushing torque (N·m)</b>	0.11   0.16
<b>Backlash (")</b>	+/-0.5
<b>Max. moment of inertia Note 3 (kg·m²)</b>	0.0018   0.004
<b>Cable length (m)</b>	Standard: 1 / Option: 3, 5, 10
<b>Rotation range (")</b>	310

Note 1. Positioning repeatability in one direction.

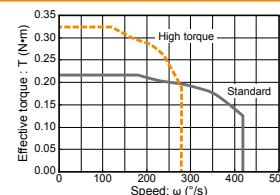
Note 2. The maximum speed may vary depending on the moment of inertia. Check the maximum speed while referring to the "Moment of inertia vs. Acceleration/deceleration" graph and the "Effective torque vs. speed" graph (reference).

Note 3. For moment of inertia and effective torque details, see P.711.

## Moment of inertia Acceleration/deceleration



## Effective torque vs. speed



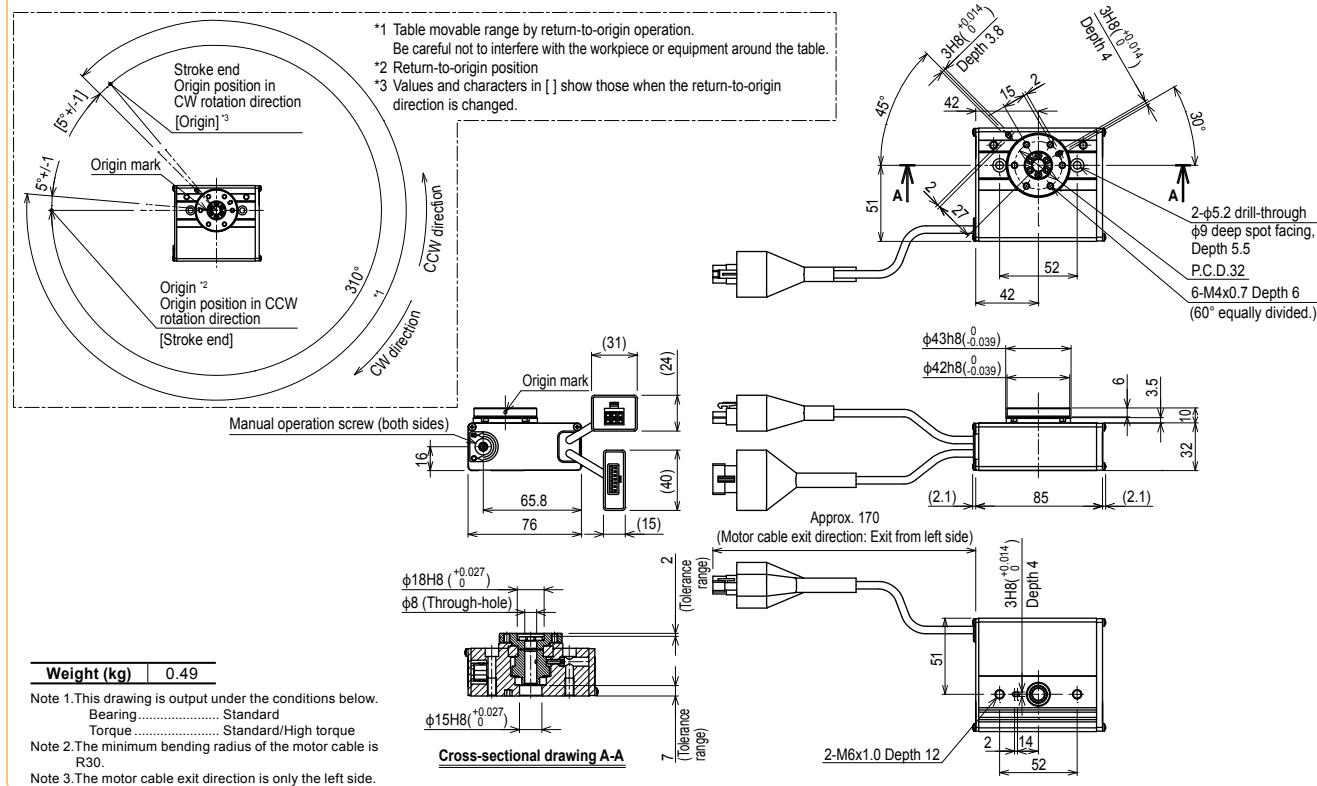
## Allowable load

Allowable radial load (N)	Allowable thrust load (N)		Allowable moment (N·m)	
	(a)	(b)	Standard model	High rigidity model
78	86	74	78	107
Standard model	High rigidity model	Standard model	High rigidity model	Standard model

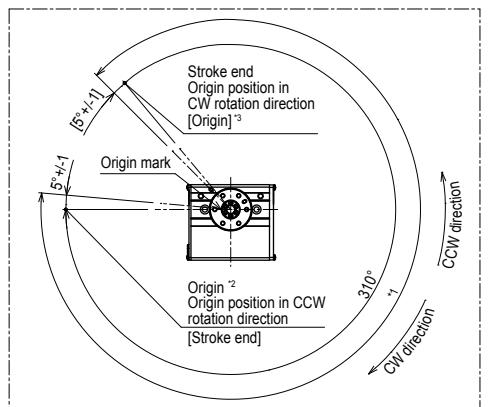
Note. When purchasing the product, set the controller acceleration while carefully checking the "Moment of inertia vs. Acceleration/Deceleration" and "Effective torque vs. Speed" graphs.

For details, please refer to the TRANSERO Series User's Manual.

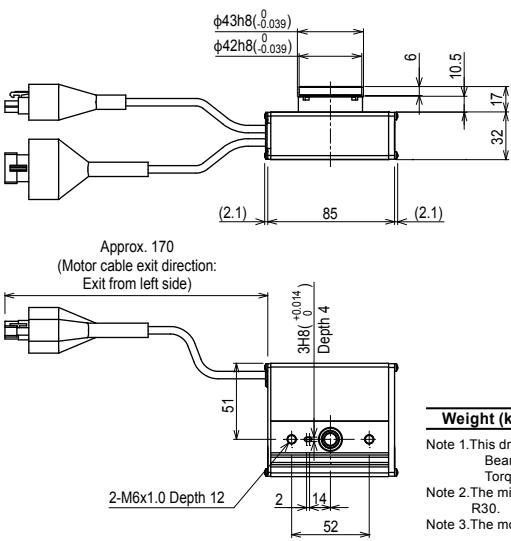
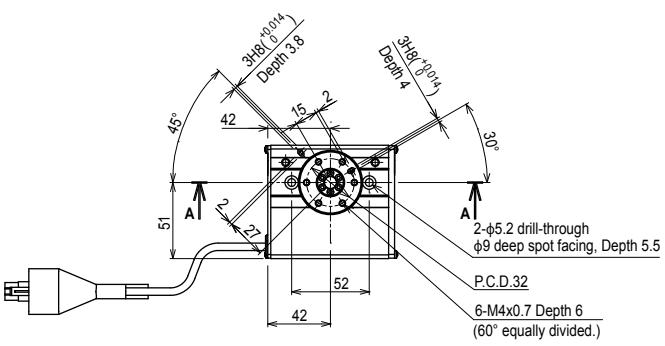
## RF02-NN Limit rotation specification – Standard model



RF02-NH Limit rotation specification – High rigidity model



- \*1 Table movable range by return-to-origin operation.  
Be careful not to interfere with the workpiece or equipment around the table.
- \*2 Return-to-origin position
- \*3 Values and characters in [ ] show those when the return-to-origin direction is changed.



### Cross-sectional drawing A-A

**Weight (kg)** | 0.52

Note 1. This drawing is output under the conditions below.

Bearing ..... High rigidity  
 Torque ..... Standard/High torque

Note 2. The minimum bending radius of the motor cable is

R3

Note 3.The motor cable exit direction is only the left side.

# RF02-S

Rotary type / Sensor specification



Linear conveyor  
modules  
LCMR200

Single-axis robots  
GX

Linear conveyor  
modules  
LCM100

SCARA robots  
YK-X

Single-axis robots  
Robonity

Linear motor  
single-axis robots  
PHASER

Single-axis robots  
FLIP-X

Compact  
single-axis robots  
TRANSERO

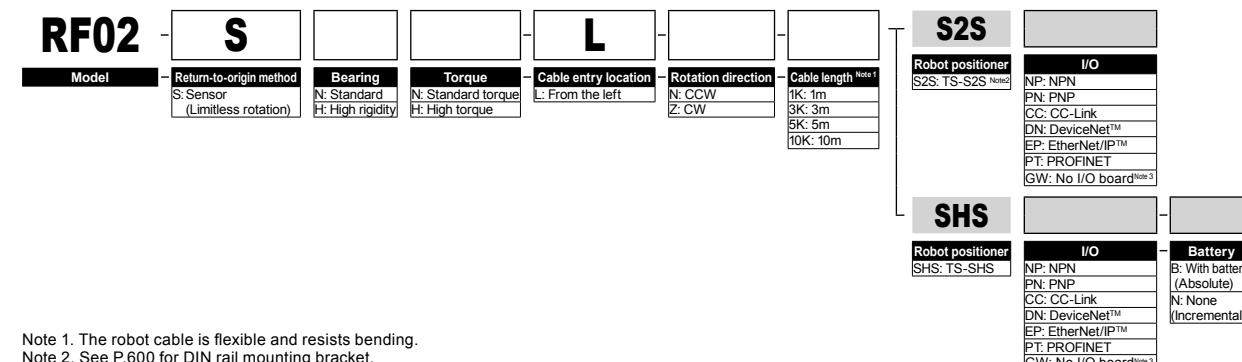
Cartesian robots  
XY-X

Pick & place  
robots  
VP-X

CLEAN  
CONTROLLER INFORMATION

● CE compliance ● Limitless rotation

## Ordering method



Note 1. The robot cable is flexible and resists bending.

Note 2. See P.600 for DIN rail mounting bracket.

Note 3. Select this selection when using the gateway function.

## Basic specifications

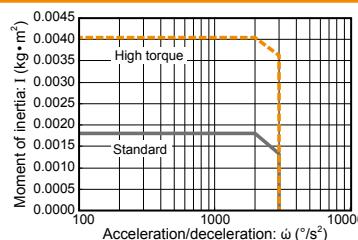
<b>Motor</b>	20 □ Step motor
<b>Resolution (Pulse/rotation)</b>	4096
<b>Repeatability Note 1</b> (")	+/-0.05
<b>Drive method</b>	Special warm gear + belt
<b>Torque type</b>	Standard High torque
<b>Maximum speed Note 2</b> (°/sec)	420 280
<b>Rotating torque (N·m)</b>	0.22 0.32
<b>Max. pushing torque (N·m)</b>	0.11 0.16
<b>Backlash (")</b>	+/-0.5
<b>Max. moment of inertia Note 3</b> (kg·m²)	0.0018 0.004
<b>Cable length (m)</b>	Standard: 1 / Option: 3, 5, 10
<b>Rotation range (")</b>	360

Note 1. Positioning repeatability in one direction.

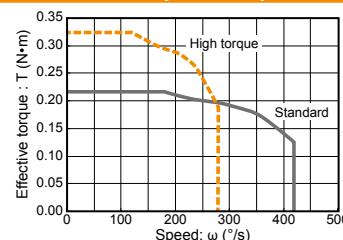
Note 2. The maximum speed may vary depending on the moment of inertia. Check the maximum speed while referring to the "Moment of inertia vs. Acceleration/deceleration" graph and the "Effective torque vs. speed" graph (reference).

Note 3. For moment of inertia and effective torque details, see P.711.

## Moment of inertia Acceleration/deceleration



## Effective torque vs. speed



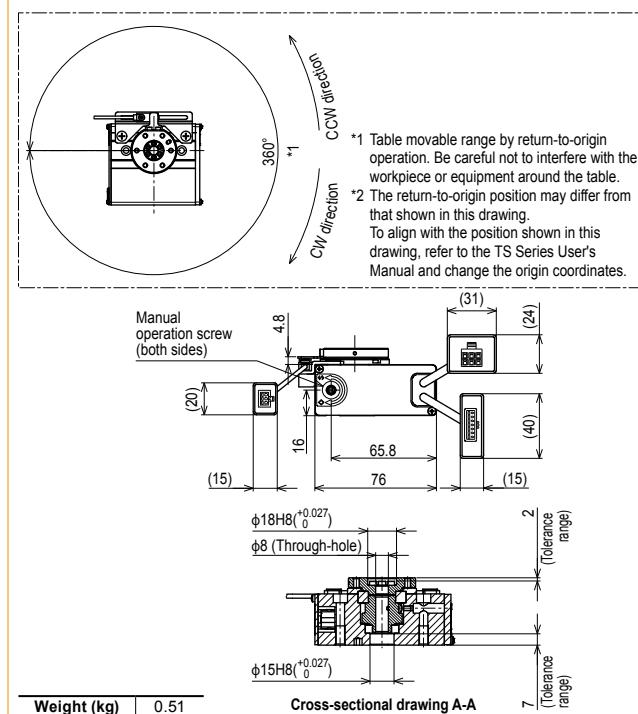
## Allowable load

Allowable radial load (N)	Allowable thrust load (N)		Allowable moment (N·m)	
	(a) Standard model	(b) High rigidity model	(a) Standard model	(b) High rigidity model
78	86	74	78	107
2.4	2.9			

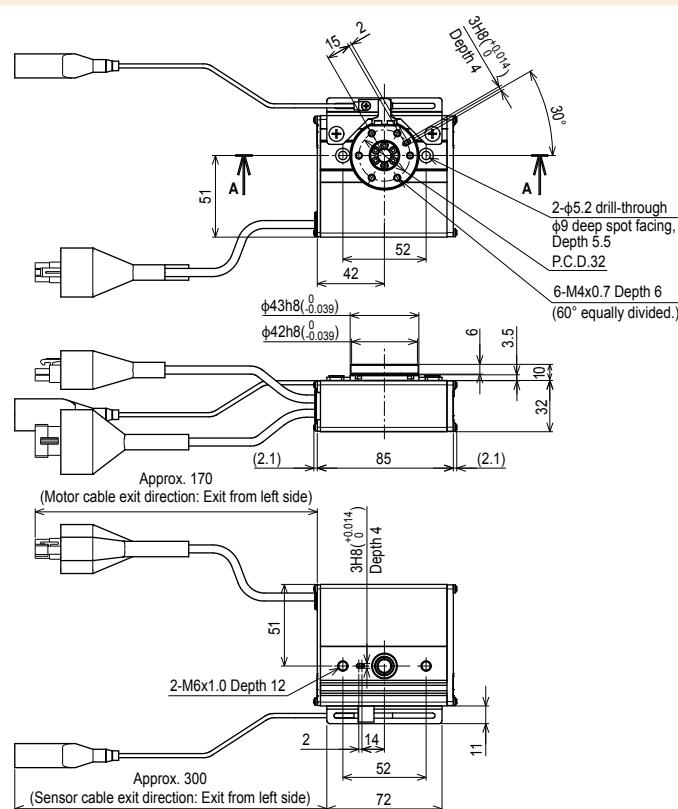
Note. When purchasing the product, set the controller acceleration while carefully checking the "Moment of inertia vs. Acceleration/Deceleration" and "Effective torque vs. Speed" graphs.

For details, please refer to the TRANSERO Series User's Manual.

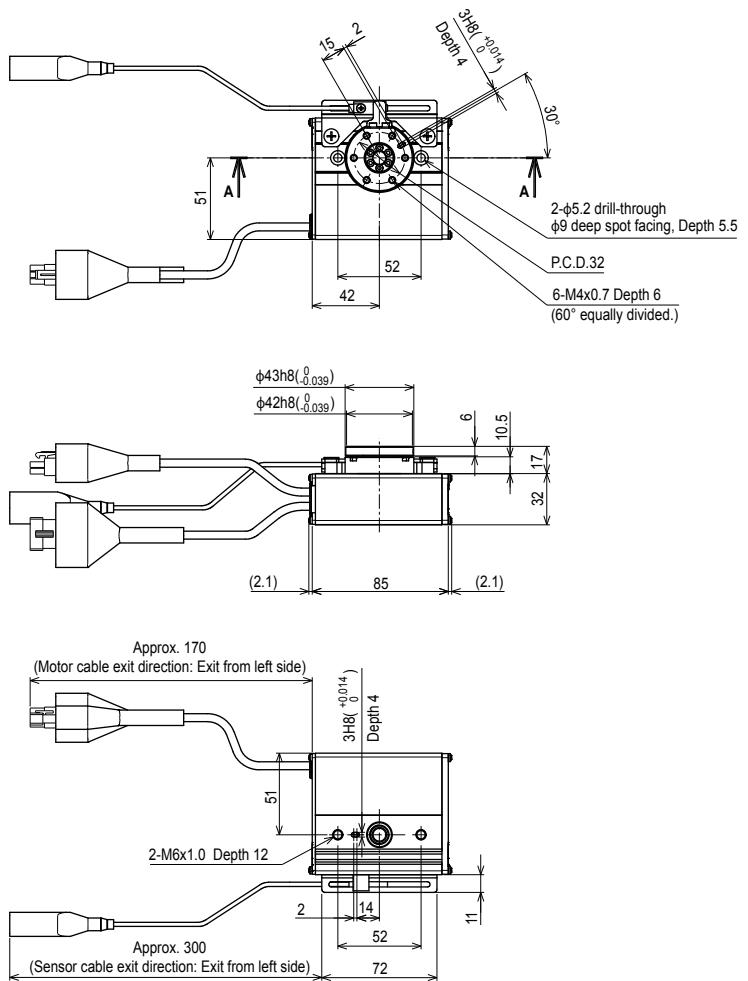
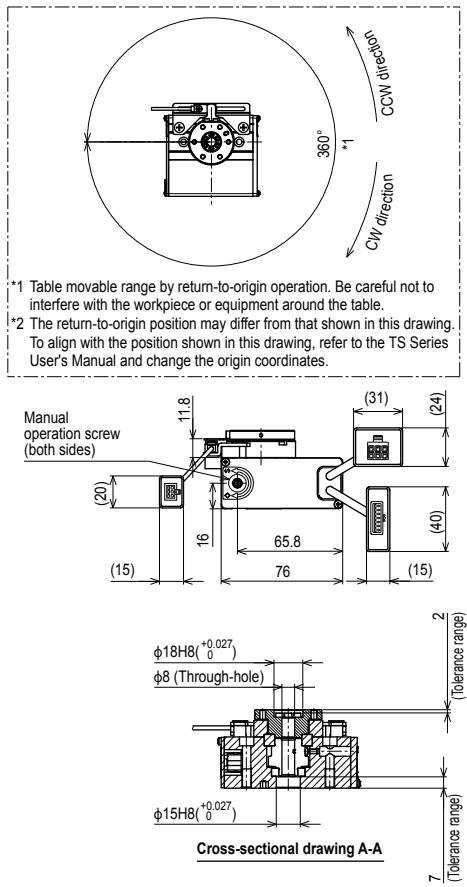
## RF02-SN Sensor specification – Standard model



**Weight (kg)** 0.51  
 Note 1. This drawing is output under the conditions below.  
 Bearing ..... Standard  
 Torque ..... Standard/High torque  
 Note 2. The minimum bending radii of the motor cable and sensor cable are R30.  
 Note 3. The motor cable exit direction is only the left side.



### RF02-SH Sensor specification – High rigidity model



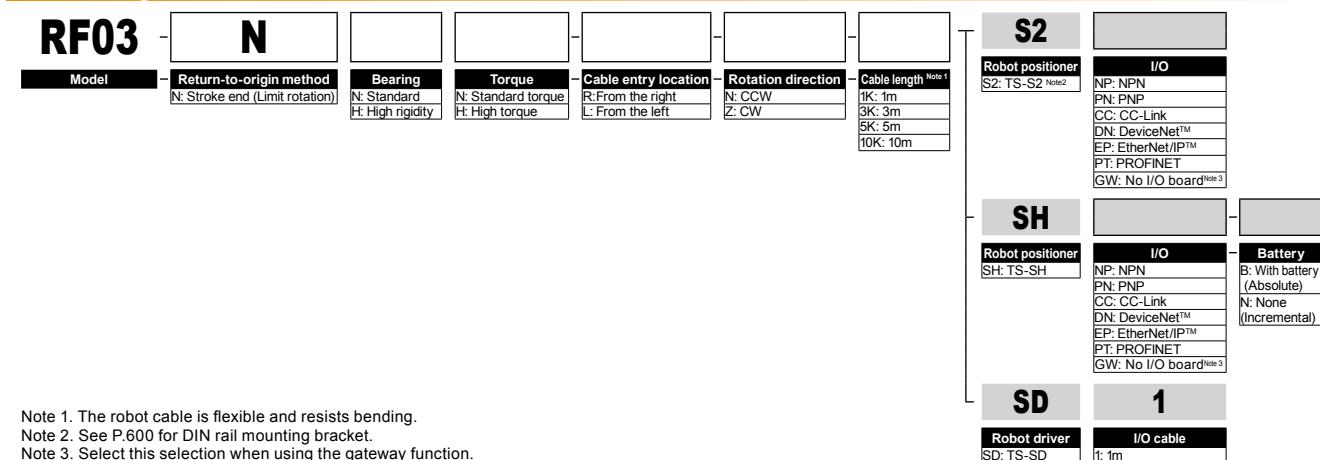
# RF03-N

Rotary type / Limit rotation specification

● CE compliance

● Rotation range : 320°

## Ordering method



Note 1. The robot cable is flexible and resists bending.

Note 2. See P.600 for DIN rail mounting bracket.

Note 3. Select this selection when using the gateway function.

## Basic specifications

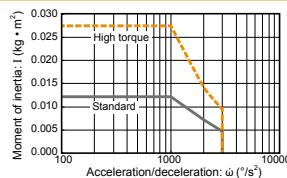
<b>Motor</b>	28 □ Step motor
<b>Resolution (Pulse/rotation)</b>	4096
<b>Repeatability Note 1 (")</b>	+/-0.05
<b>Drive method</b>	Special warm gear + belt
<b>Torque type</b>	Standard   High torque
<b>Maximum speed Note 2 ("/sec)</b>	420   280
<b>Rotating torque (N·m)</b>	0.8   1.2
<b>Max. pushing torque (N·m)</b>	0.4   0.6
<b>Backlash (")</b>	+/-0.5
<b>Max. moment of inertia Note 3 (kg·m²)</b>	0.012   0.027
<b>Cable length (m)</b>	Standard: 1   Option: 3, 5, 10
<b>Rotation range (")</b>	320

Note 1. Positioning repeatability in one direction.

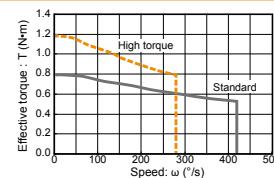
Note 2. The maximum speed may vary depending on the moment of inertia. Check the maximum speed while referring to the "Moment of inertia vs. Acceleration/deceleration" graph and the "Effective torque vs. speed" graph (reference).

Note 3. For moment of inertia and effective torque details, see P.711.

## Moment of inertia Acceleration/deceleration



## Effective torque vs. speed



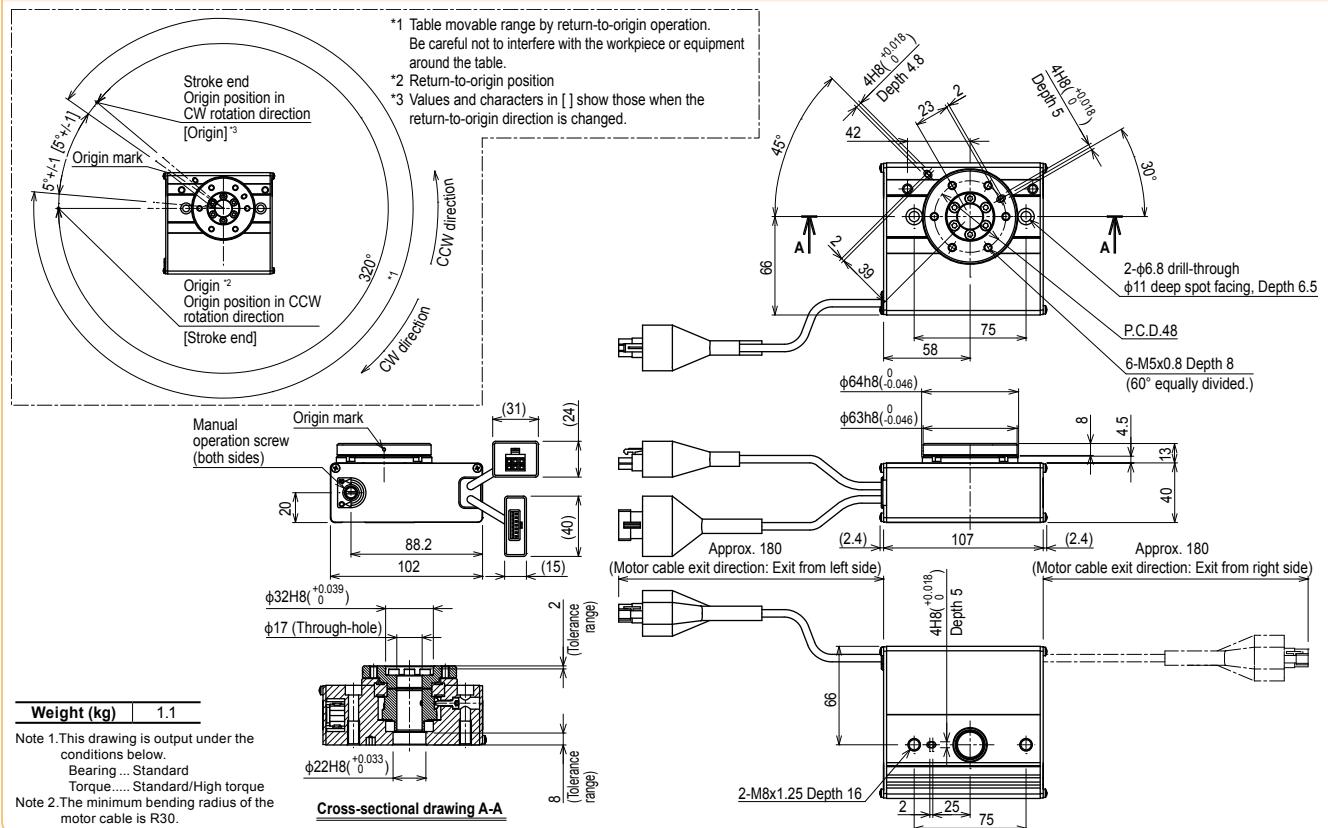
## Allowable load

Allowable radial load (N)	Allowable thrust load (N)		Allowable moment (N·m)	
	(a) Standard model	(b) High rigidity model	(a) Standard model	(b) High rigidity model
196   233	197	363   398	5.3	6.4

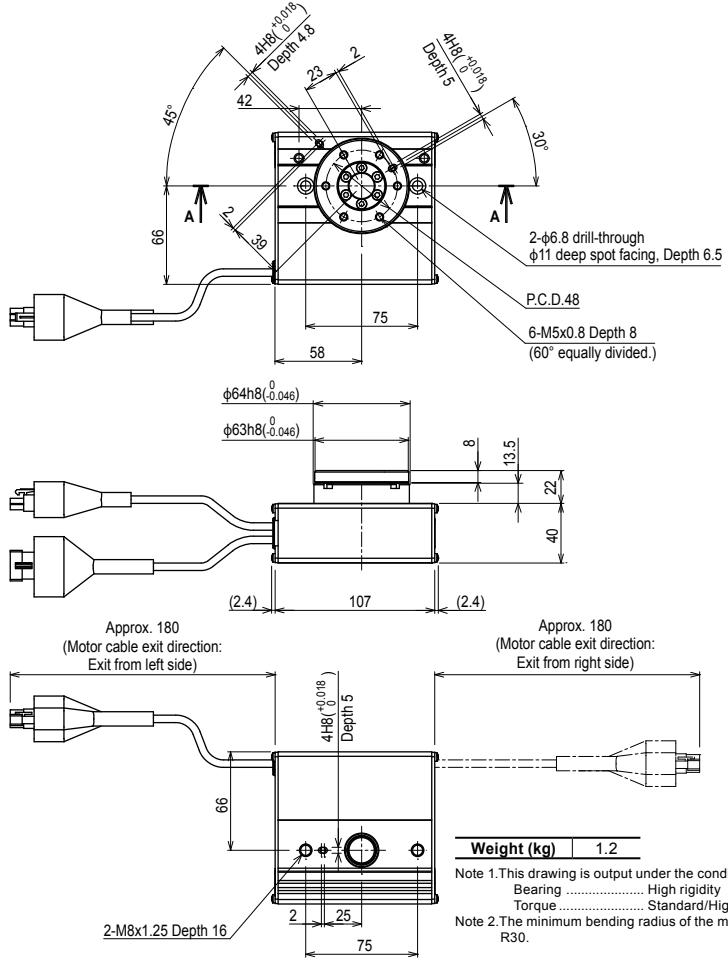
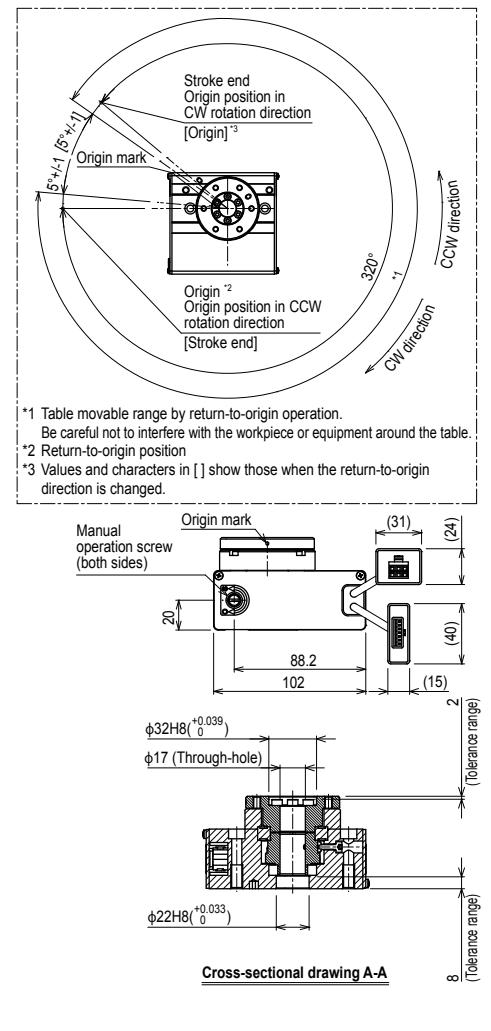
Note. When purchasing the product, set the controller acceleration while carefully checking the "Moment of inertia vs. Acceleration/Deceleration" and "Effective torque vs. Speed" graphs.

For details, please refer to the TRANSERO Series User's Manual.

## RF03-NN Limit rotation specification – Standard model



RF03-NH Limit rotation specification – High rigidity model



# RF03-S

## **Rotary type / Sensor specification**

## CE compliance

#### Limitless rotation

## Ordering method

<b>RF03</b>	<b>S</b>					
<b>Model</b>	<b>Return-to-origin method</b> S: Sensor (Limitless rotation)	<b>Bearing</b> N: Standard H: High rigidity	<b>Torque</b> N: Standard torque H: High torque	<b>Cable entry location</b> R: From the right L: From the left	<b>Rotation direction</b> N: CCW Z: CW	<b>Cable length</b> Note 1K: 1m 3K: 3m 5K: 5m 5K+: 10m

**S2S**

**Robot positioner**  
S2S: TS-S2S Note2

**I/O**  
NP: NPN

PN: PNP
CC: CC-Link
DN: DeviceNet™
EP: EtherNet/IP™
PT: PROFINET
GW: No I/O board <sup>Note 3</sup>

Note 1. The robot cable is flexible and resists bending.

Note 2. See P.600 for DIN rail mounting bracket.

Note 3. Select this selection when using the gateway function.

## ■ Basic specifications

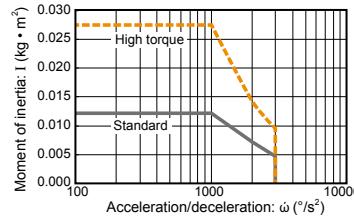
<b>Motor</b>	28 <input type="checkbox"/> Step motor	
<b>Resolution (Pulse/rotation)</b>	4096	
<b>Repeatability</b> <sup>Note 1</sup> (°)	+/-0.05	
<b>Drive method</b>	Special warm gear + belt	
<b>Torque type</b>	Standard	High torque
<b>Maximum speed</b> <sup>Note 2</sup> (°/sec)	420	280
<b>Rotating torque (N·m)</b>	0.8	1.2
<b>Max. pushing torque (N·m)</b>	0.4	0.6
<b>Backlash (°)</b>	+/-0.5	
<b>Max. moment of inertia</b> <sup>Note 3</sup> (kg·m <sup>2</sup> )	0.012	0.027
<b>Cable length (m)</b>	Standard: 1 / Option: 3, 5, 10	
<b>Rotation range (°)</b>	360	

Note 1. Positioning repeatability in one direction

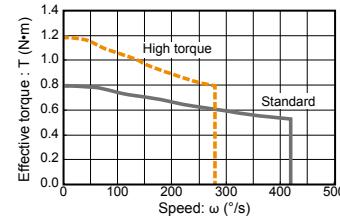
Note 2. The maximum speed may vary depending on the moment of inertia. Check the maximum speed while referring to the "Moment of inertia vs. Acceleration/deceleration" graph and the "Effective torque vs. speed" graph (reference).

Note 3. For moment of inertia and effective torque details, see P.711.

## Moment of inertia Acceleration/deceleration



## ■ Effective torque vs. speed



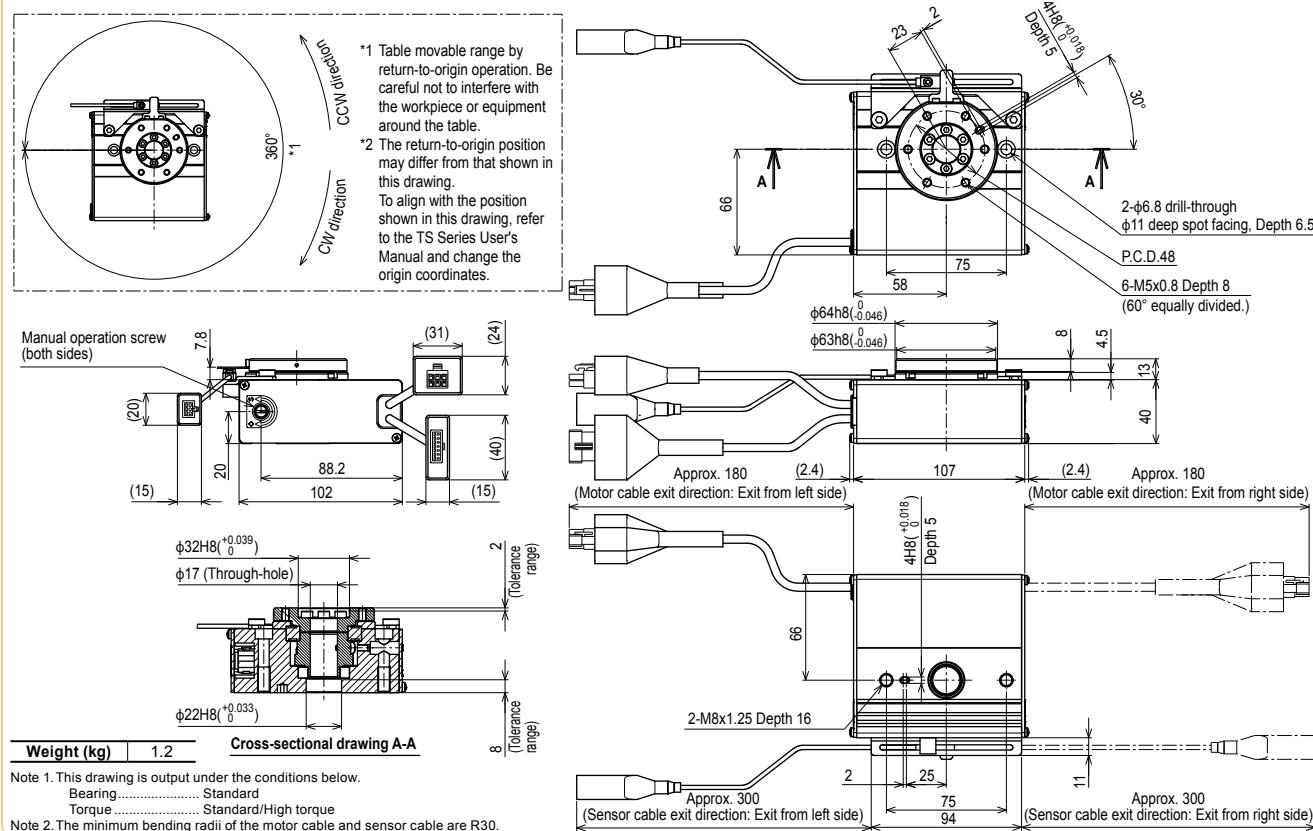
## Allowable load

Allowable radial load (N)	Allowable thrust load (N)				Allowable moment (N·m)
	(a)		(b)		
Standard model	High rigidity model	Standard model	High rigidity model	Standard model	High rigidity model
106	232	107	262	208	5.2

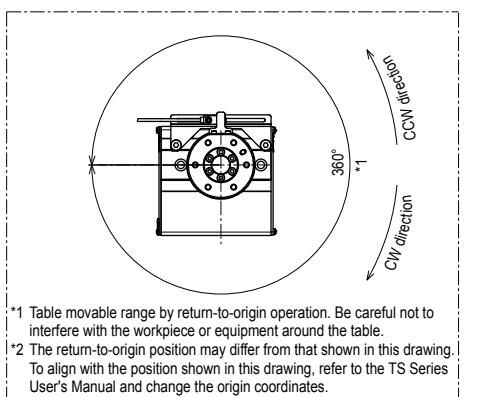
Note. When purchasing the product, set the controller acceleration while carefully checking the "Moment of inertia vs. Acceleration/Deceleration" and "Effective torque vs. Speed" graphs.

torque vs. Speed" graphs.  
For details, please refer to the TRANSERVO Series User's Manual.

RF03-SN Sensor specification – Standard model

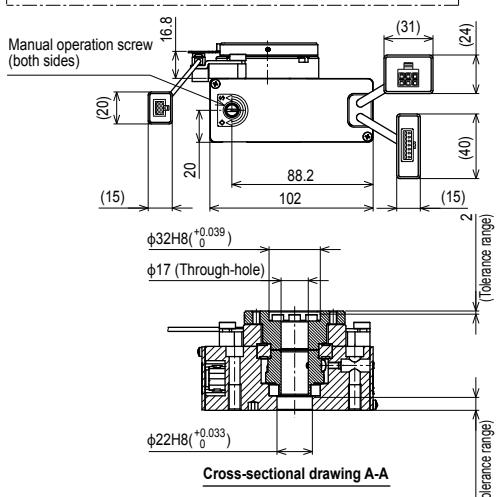


RF03-SH Sensor specification – High rigidity model



\*1 Table movable range by return-to-origin operation. Be careful not to interfere with the workpiece or equipment around the table.

\*2 The return-to-origin position may differ from that shown in this drawing. To align with the position shown in this drawing, refer to the TS Series User's Manual and change the origin coordinates.



### Cross-sectional drawing A-A

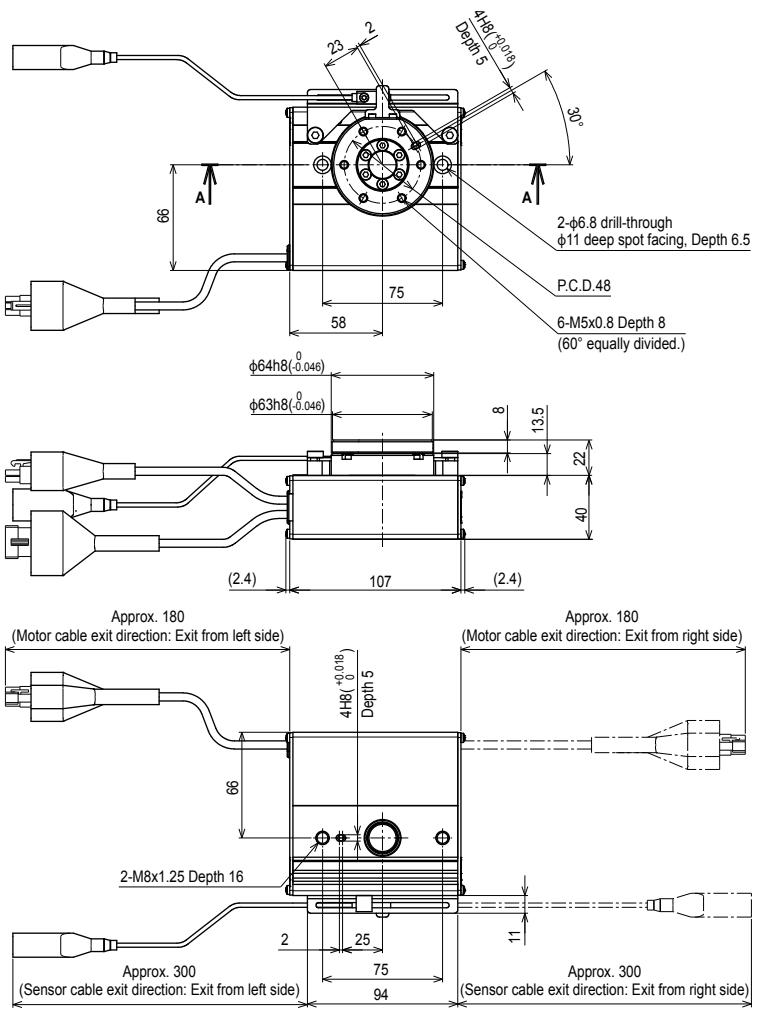
**Weight (kg)** | 1.3

Note 1. This drawing is output under the conditions below.

Bearing ..... High rigidity

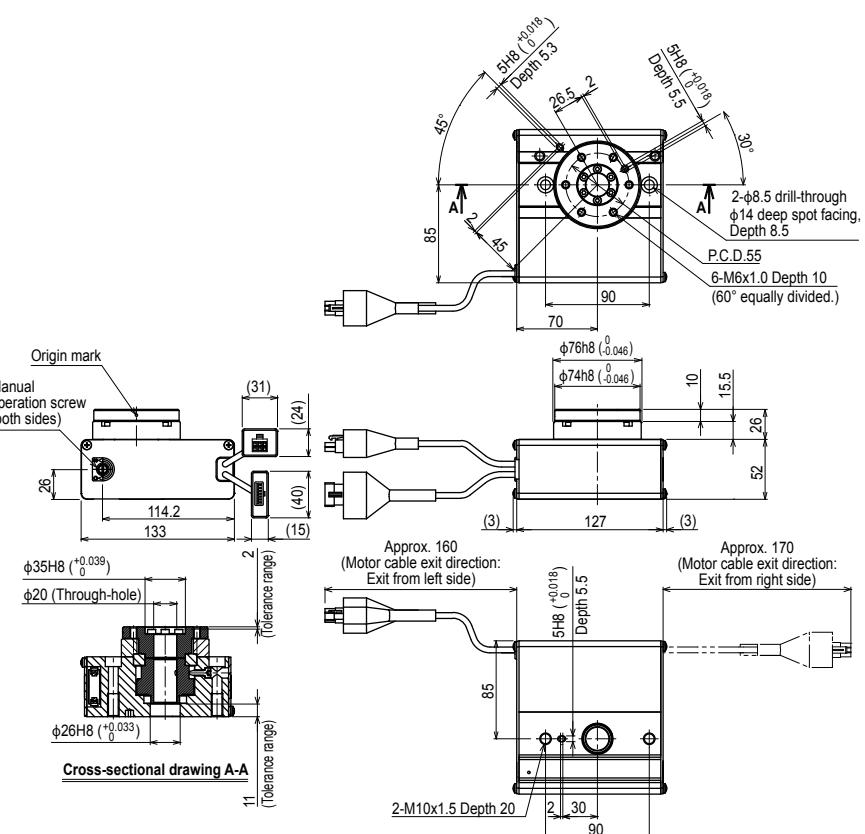
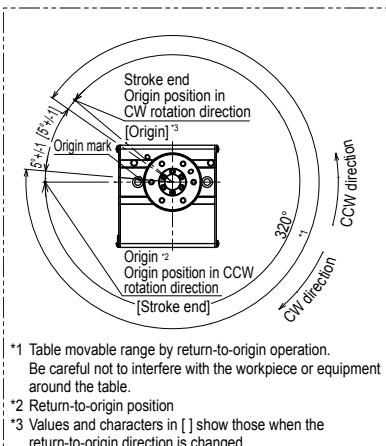
Bearing ..... High rigidity  
Torque ..... Standard/High torque

Note 2. The minimum bending radii of the motor cable and sensor cable are R30.





## RF04-NH Limit rotation specification – High rigidity model



Weight (kg) 2.4

Note 1. This drawing is output under the conditions below.

Bearing ..... High rigidity

Torque ..... Standard/High torque

Note 2. The minimum bending radius of the motor cable is R30.



LCMR200	Linear conveyor modules
GX	Single-axis robots
LCM100	Linear conveyor modules
YK-X	SCARA robots
Robonity	Single-axis robots
PHASER	Linear motor single-axis robots
FLIP-X	Single-axis robots
TRANSERVO	Compact single-axis robots
XY-X	Cartesian robots
YP-X	Pick & place robots
CLEAN	
CONTROLLER	
INFORMATION	

### RF04-SH Sensor specification – High rigidity model

