

# RF02-N

## Rotary type / Limit rotation specification

- CE compliance
- Rotation range : 310°

### Ordering method

<b>RF02</b>	<b>N</b>			<b>L</b>			<b>S2</b>	
<b>Model</b>	<b>Return-to-origin method</b> N: Stroke end (Limit rotation)	<b>Bearing</b> N: Standard H: High rigidity	<b>Torque</b> N: Standard torque H: High torque	<b>Cable entry location</b> L: From the left	<b>Rotation direction</b> N: CCW Z: CW	<b>Cable length</b> <small>Note 1</small> 1K: 1m 3K: 3m 5K: 5m 10K: 10m	<b>Robot positioner</b> S2: TS-S2 <small>Note 2</small>	<b>I/O</b> NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board <small>Note 3</small>
							<b>SH</b>	<b>Battery</b> B: With battery (Absolute) N: None (Incremental)
							<b>SD</b>	<b>1</b>
							<b>Robot driver</b> SD: TS-SD	<b>I/O cable</b> t: 1m

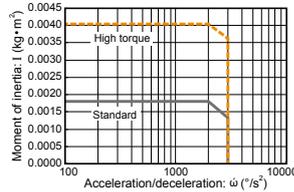
Note 1. The robot cable is flexible and resists bending.  
 Note 2. See P.498 for DIN rail mounting bracket.  
 Note 3. Select this selection when using the gateway function. For details, see P.60.

### Basic specifications

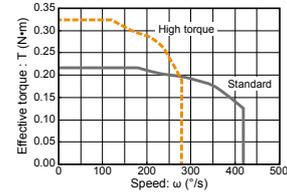
<b>Motor</b>	20 □ Step motor	
<b>Resolution (Pulse/rotation)</b>	4096	
<b>Repeatability</b> <small>Note 1</small> (°)	±0.05	
<b>Drive method</b>	Special warm gear + belt	
<b>Torque type</b>	Standard	High torque
<b>Maximum speed</b> <small>Note 2</small> (°/sec)	420	280
<b>Rotating torque (N·m)</b>	0.22	0.32
<b>Max. pushing torque (N·m)</b>	0.11	0.16
<b>Backlash (°)</b>	±0.5	
<b>Max. moment of inertia</b> <small>Note 3</small> (kg·m <sup>2</sup> )	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.604.

### 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	Standard model	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 TRANSERVO Series User's Manual.

### Controller

Controller	Operation method
TS-S2	I/O point trace / Remote command
TS-SH	
TS-SD	Pulse train control

### RF02-NN Limit rotation specification – Standard model

Stroke end  
Origin position in CW rotation direction [Origin]<sup>3</sup>

Origin mark

Origin<sup>2</sup>  
Origin position in CCW rotation direction [Stroke end]

310°

CCW direction

CW direction

\*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.

Manual operation screw (both sides)

Origin mark

31  
(24)

16

65.8

76

(40)

(15)

2

φ18H8 (+0.027/0)

φ8 (Through-hole)

φ15H8 (+0.027/0)

2

(tolerance range)

7

(tolerance range)

Cross-sectional drawing A-A

45°

51

A1

2

21

42

15

2

318<sup>+0.014</sup>  
Depth 3.8

318<sup>+0.014</sup>  
Depth 4

30°

A1

2-φ5.2 drill-through  
φ9 deep spot facing,  
Depth 5.5  
P.C.D.32  
6-M4x0.7 Depth 6  
(60° equally divided.)

52

42

φ43h8 (+0.039/0)

φ42h8 (+0.039/0)

6

3.5

32

10

(2.1)

85

(2.1)

Approx. 170

(Motor cable exit direction: Exit from left side)

51

3H8 (+0.014/0)  
Depth 4

2

14

52

2-M6x1.0 Depth 12

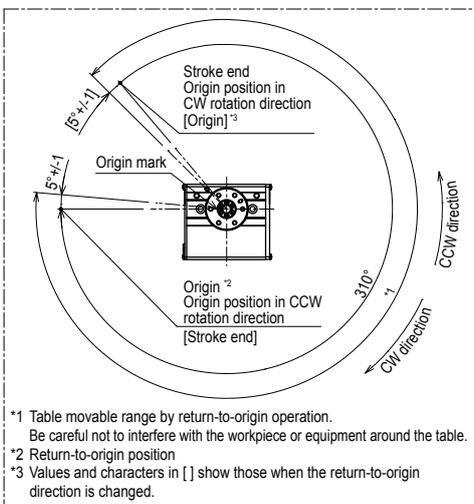
<b>Weight (kg)</b>	0.49
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Note 1. This drawing is output under the conditions below.  
 Bearing ..... Standard  
 Torque ..... Standard/High torque

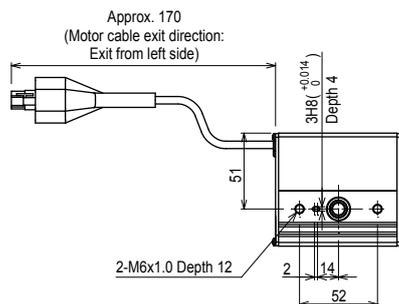
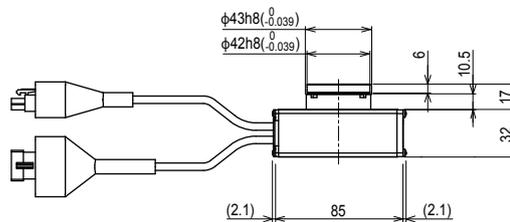
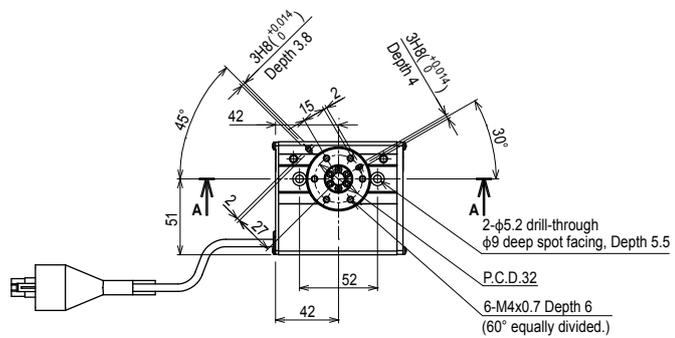
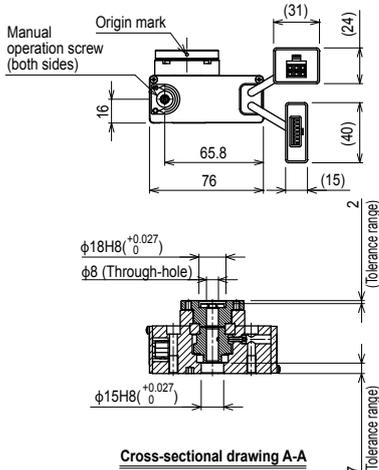
Note 2. The minimum bending radius of the motor cable is R30.

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

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.



<b>Weight (kg)</b>	0.52
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- 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.
- Note 3. The motor cable exit direction is only the left side.