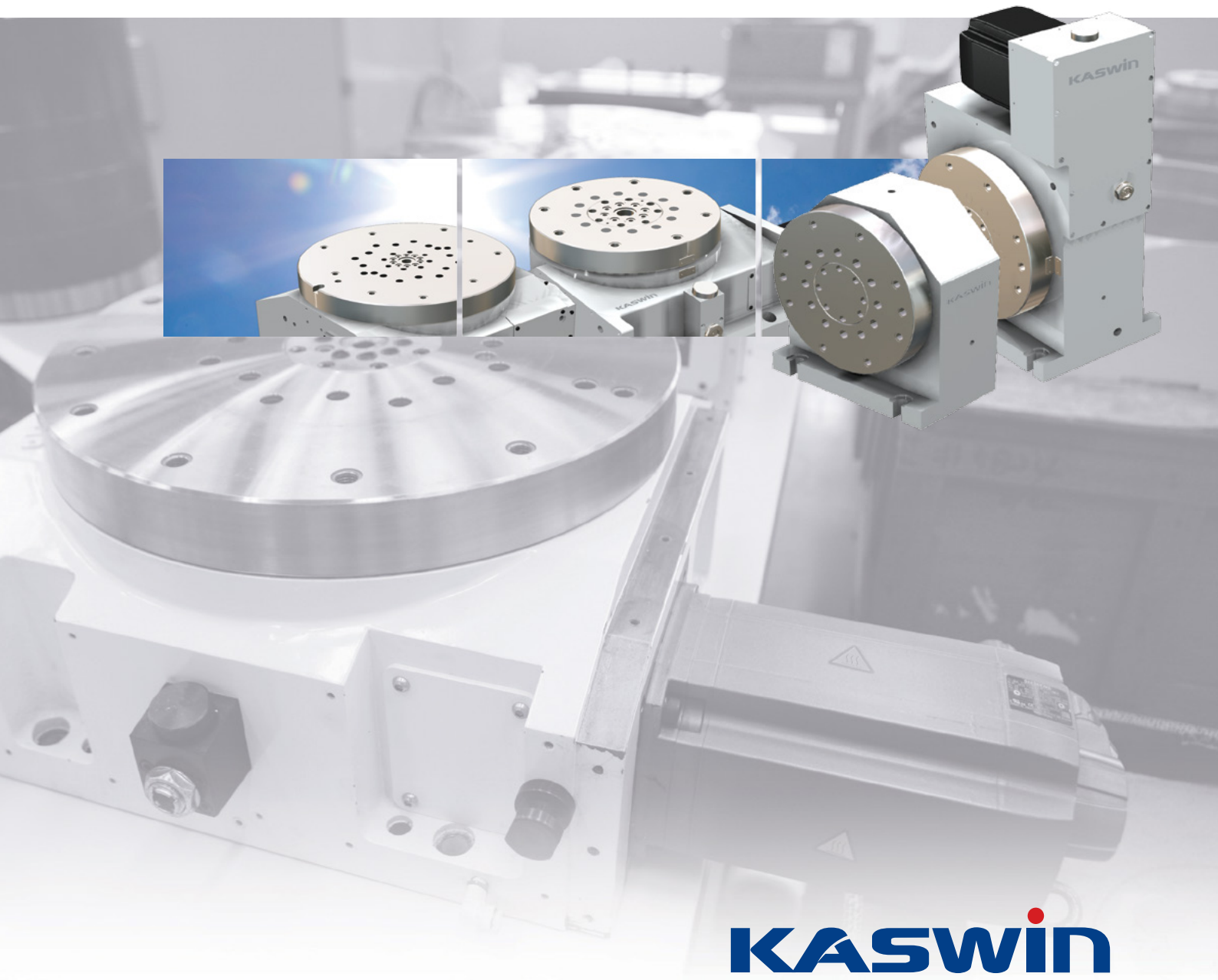


NC Rotary Table (Direct Drive, Worm Gear Type)

# HIGH PRECISION NC ROTARY TABLE



# NC Rotary Table

Direct Drive Type

## Specification

Torque Motor : Siemens

Encoder : Heidenhain

Bearing : RBV 254

Clamping : Hy'd Disk brake



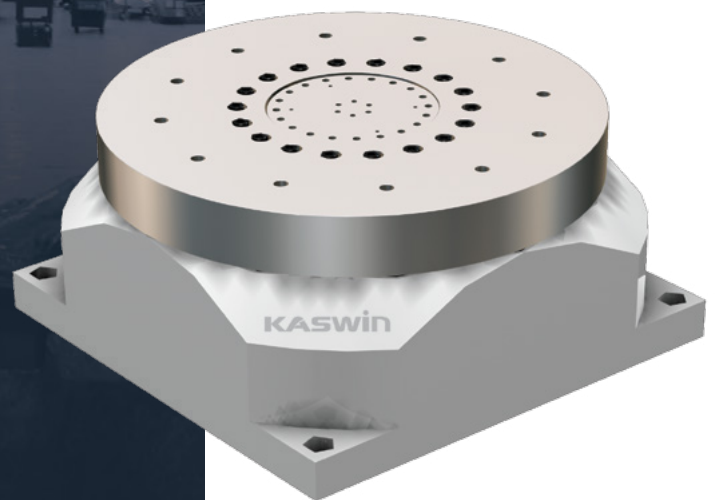
## Specification

Torque Motor : Siemens

Encoder : Heidenhain

Bearing : RBV 352

Clamping : Hy'd Disk brake



# KSR - D45B

고효율, 생산성 향상

High efficiency, Improved productive

## Technical Data

Table Diameter	Φ450mm	Max. Load	150kg
Max. Brake Torque	4,200Nm	Max. Tilting Moment	5,000Nm
Minimum resolution	0.001°	Rotary Joint	6 Ports
Torque Motor	Siemens	Encoder	Heidenhain
Bearing	RBV 254	Brake Type	Hy'd Disk Brake
Brake Pressure	35bar	Indexing Repeatability	5"
Indexing Accuracy	±7"	Flatness Of Table Face	0.015mm
Parallelism Mounting			
Surface To Table Top	0.03mm	Run Out On Table	0.01mm
Continuous Torque	319Nm	Max. Torque	537Nm
Speed	200rpm	Weight Of Table	Approx. 300

# KSR - D53B

고효율, 생산성 향상

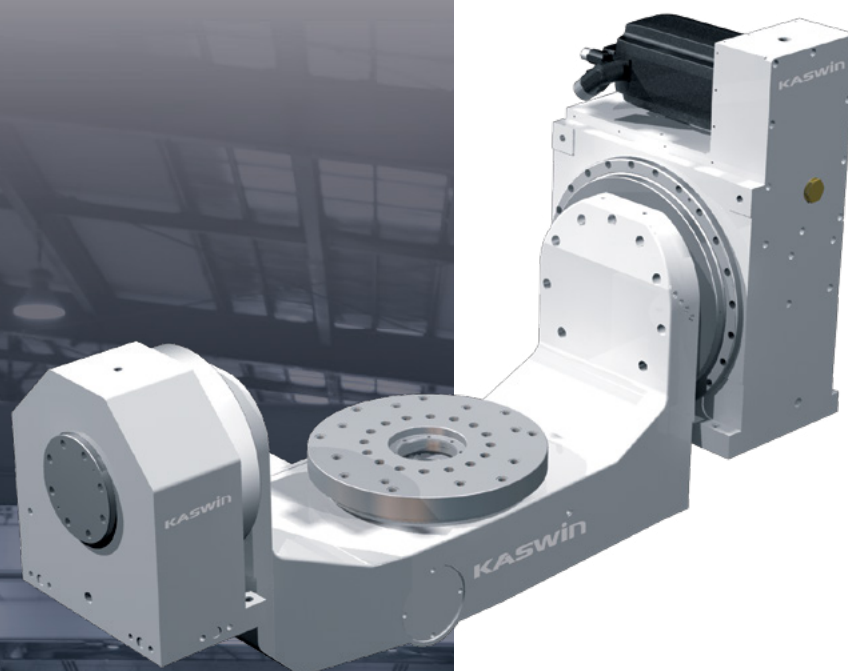
High efficiency, Improved productive

## Technical Data

Table Diameter	Φ530mm	Max. Load	700kg
Max. Brake Torque	4,000Nm	Max. Tilting Moment	5,000Nm
Minimum resolution	0.001°	Rotary Joint	10 Ports
Torque Motor	Siemens	Encoder	Heidenhain
Bearing	RBV 352	Brake Type	Hy'd Disk Brake
Brake Pressure	50bar	Indexing Repeatability	5"
Indexing Accuracy	±7"	Flatness Of Table Face	0.015mm
Parallelism Mounting			
Surface To Table Top	0.03mm	Run Out On Table	0.01mm
Continuous Torque	605Nm	Max. Torque	990Nm
Speed	60rpm	Weight Of Table	Approx. 450

# NC Rotary Table

Worm Gear Type



# NC Rotary Table

Worm Gear Type

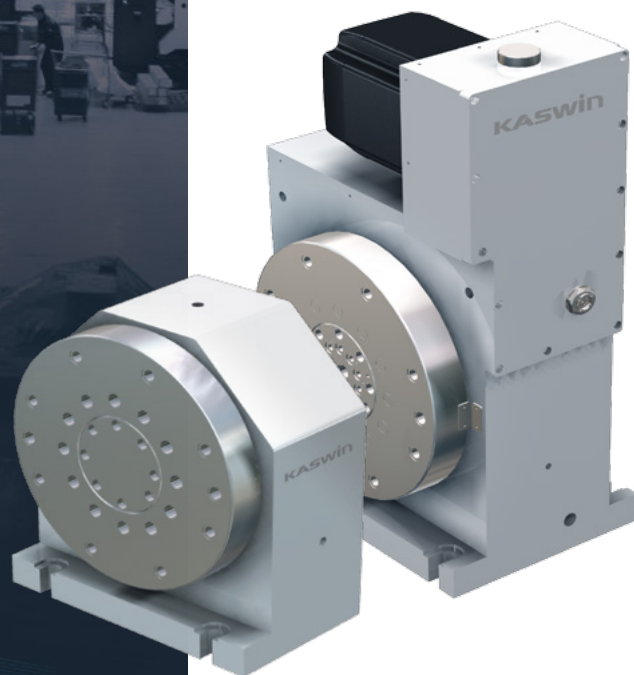
## Specification

Servo Motor : Siemens

Worm Method : Dual Worm

Total Reduction Ratio : 1 / 90

Clamping : Hy'd Disk brake



# KSR - T40AB

고효율, 생산성 향상

High efficiency, Improved productive

## Technical Data

Item	Unit	Table Part	Tilting Part
Table Diameter	mm	400	400, 330
Dimension	mm	1498x705x880	
Total Reduction Ratio		1/90	1/90
Max. Resolution	rpm	11.1	8.8
Indexing Accuracy	sec	12	12
Indexing Repeatability	sec	±2	±2
Clamp Torque	Nm	1863(190kgf-m)	6972(711kgf-m)
Clamp Force Pressure	Mpa	4.9	4.9
Max. Load	kg	400	
Permissible Machining Torque Of Wheel	N-m	686	3270
Weight Of Table	kg	330	250, 106
Wheel Gear	N	60	93
Rotary Joint	EA	11	11
Servo Motor	Siemens	1FT7084-5AF1-1MK2	1FT7086-5AF71-1ML2
Brake Type	-	Hy'd Disk Brake	Hy'd Disk Brake

# KSR - N33A

## Technical Data

Table Diameter	Ø330mm	Total Reduction Ratio	1 / 90
Minimum Resolution	0.001°	Lubrication	Oil Bath
Servo Motor	Siemens	Rotary Joint	10 Ports
Worm Method	Dual Worm	Brake Type	Hy'd Disk Brake
Clamp Source	Oil Pressure	Clamp Force Pressure	50kg/cm <sup>2</sup>
Indexing Accuracy	12"	Indexing Repeatability	±2"
Dimension	395x274x660	Total Height	235mm
Clamp Torque	1,633Nm	Max. Permission	
Cutting Torque	1,633Nm		
Speed	33.3rpm	Weight Of Table	Approx. 255
Max. Load	150kg	Flatness Of Table Face	

# NC Rotary Table

Worm Gear Type

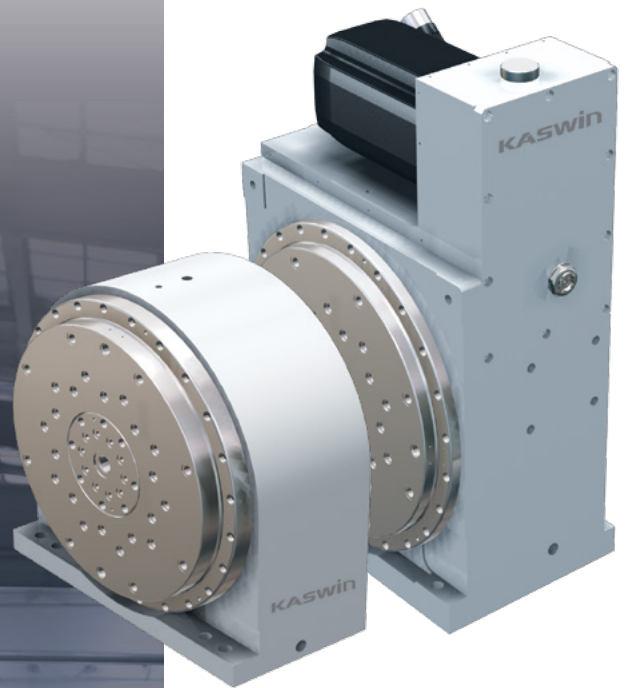
## Specification

Servo motor : Siemens

Worm method : Dual Worm

Total Reduction Ratio : 1/90

Clamping : Hy'd Disk brake



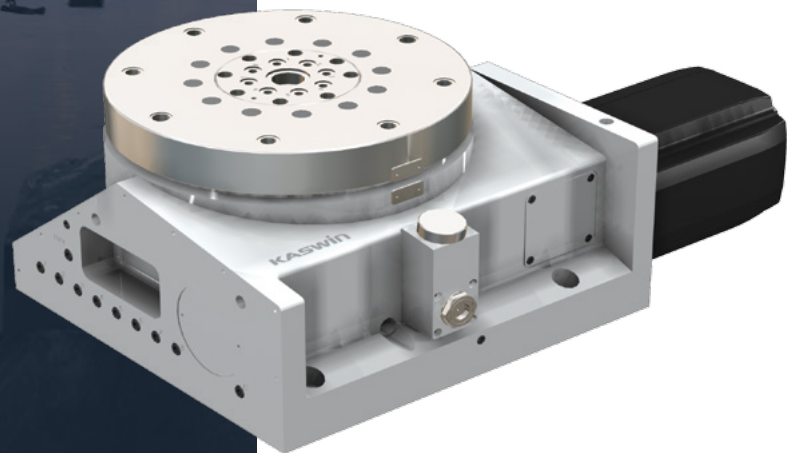
## Specification

Servo motor : Siemens

Worm Method : Dual Worm

Total Reduction Ratio : 1 / 60

Clamping : Hy'd Disk brake



# KSR - N40A

고속, 고정밀 분할 시스템, 고강성 바디

High-speed, High-precision indexing system, High rigidity body

## Technical Data

Table Diameter	Ø400mm	Total Reduction Ratio	1 / 90
Minimum Resolution	0.001°	Lubrication	Oil Bath
Servo Motor	Siemens	Rotary Joint	10 Port
Worm Method	Dual Worm	Brake Type	Hy'd Disk Brake
Clamp Source	Oil Pressure	Clamp Force Pressure	50kg/cm <sup>2</sup>
Indexing Accuracy	12"	Indexing Repeatability	±2"
Dimension	470x300x715	Total Height	255mm
Clamp Torque	6,972Nm	Max. Permission	
Cutting Torque	6,972Nm		
Speed	33.3rpm	Weight Of Table	Approx. 380
Max. Load	350kg	Flatness Of Table Face	

# KSR - N33B

고속, 고정밀 분할 시스템, 고강성 바디

High-speed, high-precision indexing system, High rigidity body

## Technical Data

Table Diameter	Ø330mm	Total Reduction Ratio	1 / 60
Minimum Resolution	0.001°	Lubrication	Oil Bath
Servo Motor	Siemens	Rotary Joint	8 Ports
Worm Method	Dual Worm	Brake Type	Hy'd Disk Brake
Clamp Source	Oil Pressure	Clamp Force Pressure	50kg/cm <sup>2</sup>
Indexing Accuracy	12"	Indexing Repeatability	±2"
Dimension	677x407x250mm	Total Height	250mm
Clamp Torque	1,633Nm	Max. Permission	
Cutting Torque	1,633Nm		
Speed	33.3rpm	Weight Of Table	Approx. 205
Max. Load	400kg	Flatness Of Table Face	

# NC Rotary Table

Worm Gear Type

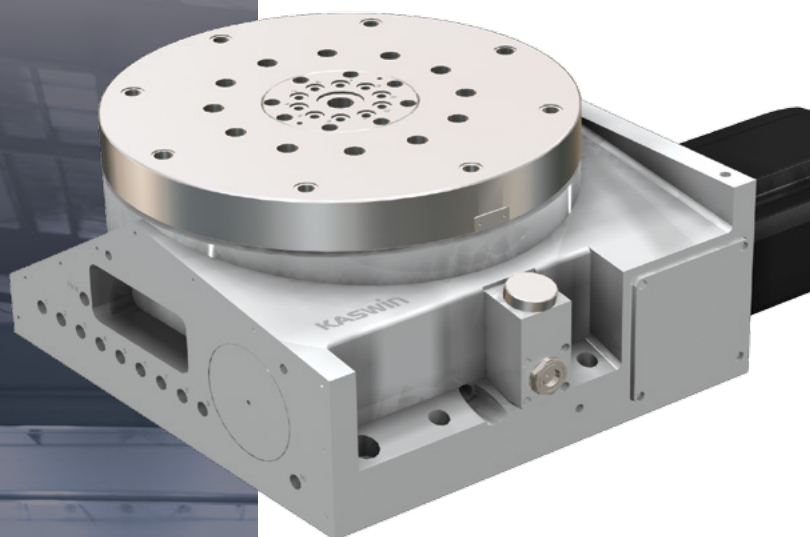
## Specification

Servo motor : Siemens

Worm Method : Dual Worm

Total Reduction Ratio : 1 / 60

Clamping : Hy'd Disk brake



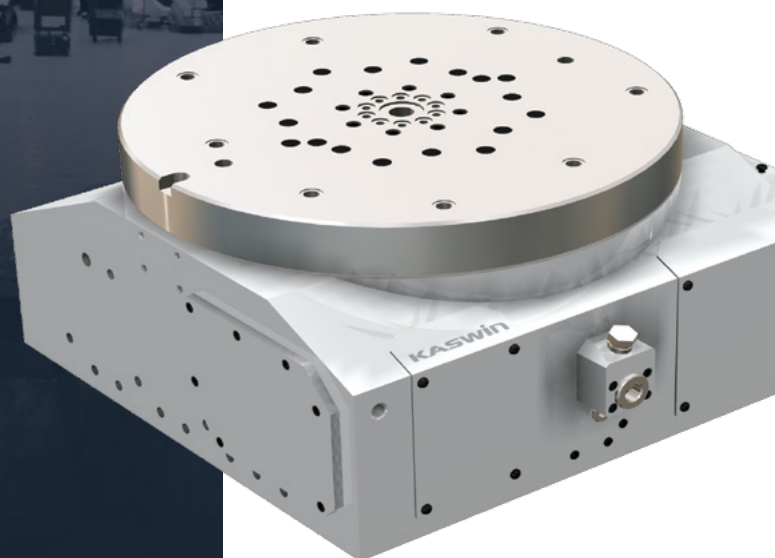
## Specification

Servo motor : Fanuc

Worm Method : Dual Worm

Total Reduction Ratio : 1 / 60

Clamping : Hy'd Disk brake





# KSR - N40B

고속, 고정밀 분할 시스템, 고강성 바디

High-speed. High-precision indexing system, High rigidity body

## Technical Data

Table Diameter	Ø400mm	Total Reduction Ratio	1 / 60
Minimum Resolution	0.001°	Lubrication	Oil Bath
Servo Motor	Siemens	Rotary Joint	10 Ports
Worm Method	Dual Worm	Brake Type	Hy'd Disk Brake
Clamp Source	Oil Pressure	Clamp Force Pressure	50kg/cm <sup>2</sup>
Indexing Accuracy	12"	Indexing Repeatability	±2"
Dimension	630x465x260mm	Total Height	260mm
Clamp Torque	3,067Nm	Max. Permission	
Cutting Torque	3,067Nm		
Speed	33.3rpm	Weight Of Table	Approx. 270
Max. Load	500kg	Flatness Of Table Face	

# KSR - N50B

고속, 고정밀 분할 시스템, 고강성 바디

High-speed. High-precision indexing system, High rigidity body

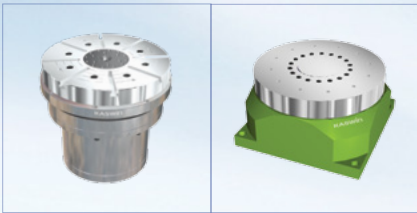
## Technical Data

Table Diameter	Ø500mm	Total Reduction Ratio	1 / 60
Minimum Resolution	0.001°	Lubrication	Oil Bath
Servo Motor	Siemens	Rotary Joint	10 Ports
Worm Method	Dual Worm	Brake Type	Hy'd Disk Brake
Clamp Source	Oil Pressure	Clamp Force Pressure	50kg/cm <sup>2</sup>
Indexing Accuracy	12"	Indexing Repeatability	±4"
Dimension	578x910x280mm	Total Height	280mm
Clamp Torque	4,675Nm	Max. Permission	
Cutting Torque	4,675Nm		
Speed	33.3rpm	Weight Of Table	Approx. 430
Max. Load	900kg	Flatness Of Table Face	0.02mm

# Direct Drive NC Rotary Table

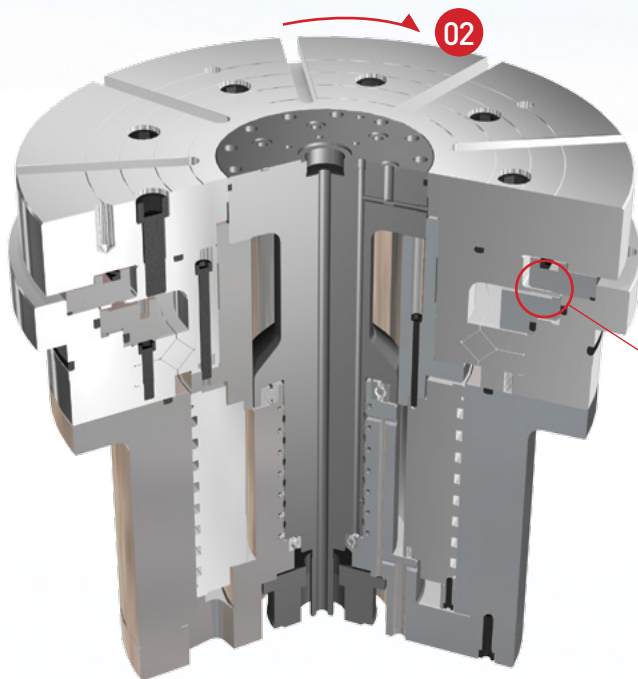
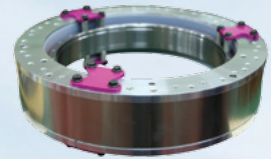
## KSR-D45B, KSR-D53B

Turning of index table is operated by direct drive type

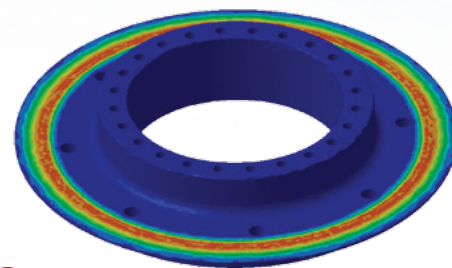


## TORQUE MOTOR

Backlash is removed by direct-drive motor  
Simple shape and structure high accurate indexing  
Transmission of high torque  
High rpm / Long life



Von Mises stress (nodal values).1



On Boundary

### 01 / CLAMP BODY

High rigidity clamp body is designed by Finite element analysis

## 02 / VARIOUS rpm

- Milling(line, arc)
- High accuracy / High reiteration accuracy
- No complex mechanism
- High maintenance
- Improved productive

## FEATURE OF DIRECT DRIVE



Worm&Wheel



Train Gear



Belt



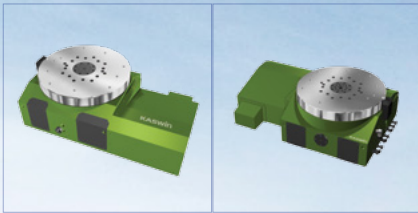
Reducer

- Improved lifetime  
(Reduction of mechanical friction such as worm gear, helical gear and etc.)
- High accuracy and reiteration (Prevent backlash and magnetic hysteresis)
- High efficiency / Dynamic performance  
(Direct drive motor offer torque-to-inertia ratio)

# Worm Gear NC Rotary Table

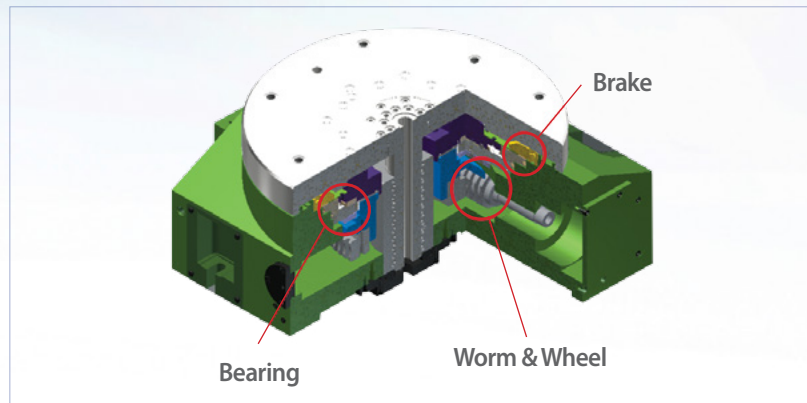
## KSR-N50B

KSR-N50B uses worm wheel and it perform positioning of almost all angle



## VARIOUS rpm

- Strong clamping power
- High speed / High accuracy partition system
- High rigidity body
- Built-in rotary valve(10 Port)
- Verticality / Horizontality available
- Optimized machining center / Line Center



The adjustable worm gear allows the operator to remove backlash as the worm wheel and worm shaft wear.

The NC rotary table incorporates a set of worm and wheel gear uniquely designed to reduce backlash by making one side of the gear's tooth flank come in contact while maintaining clearance on the other side.

## NC ROTARY TABLE DESIGN

1. There is 'No maintenance' and 'Using Continuously' by forced lubrication system
2. Diameter and module of worm gear are increased. Therefore this machine keep sufficient rigidity  
When it perform strong cutting
3. Brake disk brake turning table by using hydraulic pressure
4. Worm wheel and backlash are adjusted by moving shaft
5. Orientation Adjusting : There is no switch and dog because of using absolute type servo system.



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