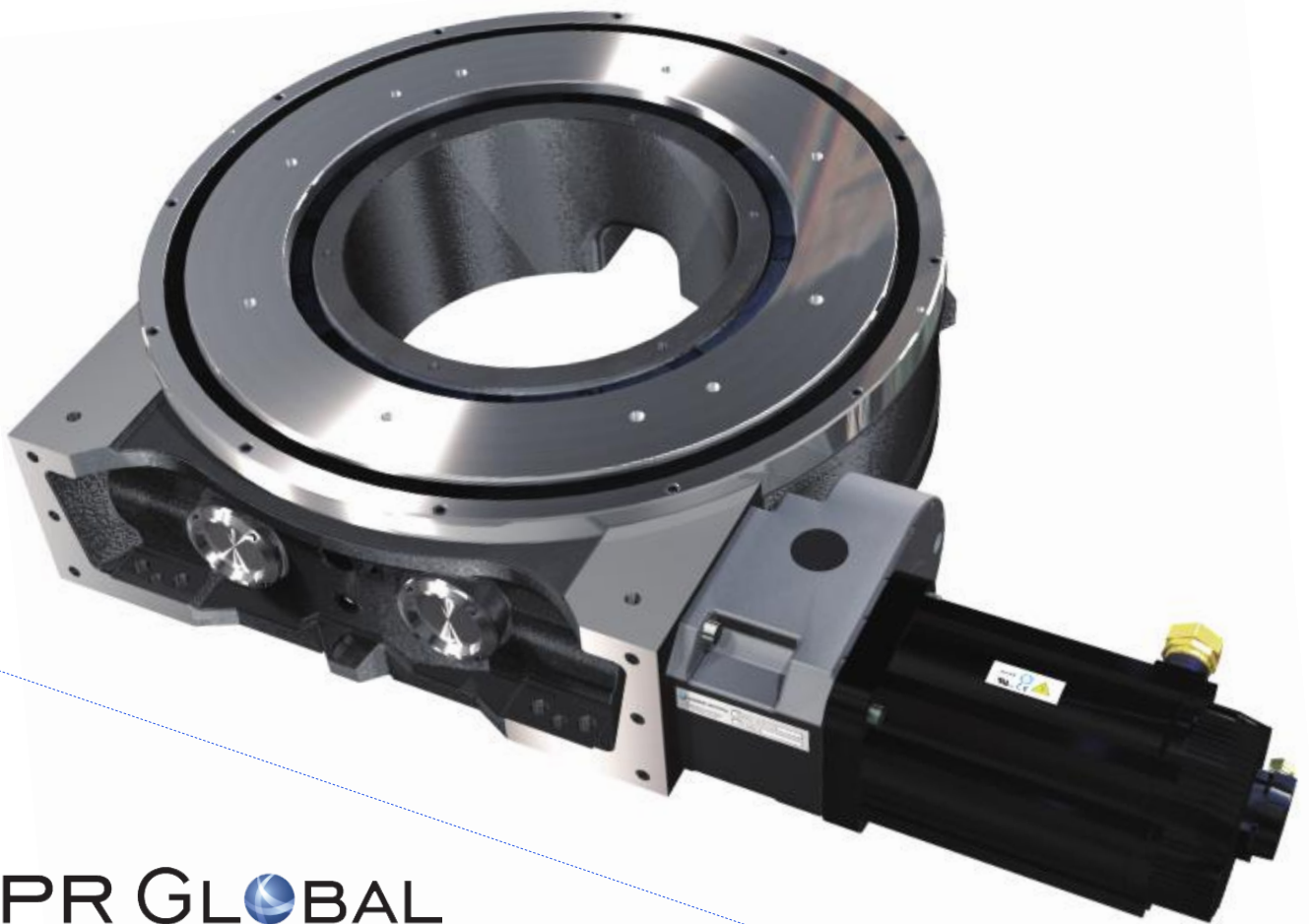


# Gear Reducers - DSR series



**LPR GLOBAL**

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# DSR series overview

## Models

### DSR500

MAX Load 20,000kg  
Power 15kW

### DSR400

MAX Load 15,000kg  
Power 11kW

### DSR300

MAX Load 10,000kg  
Power 7.5kW

### DSR220

MAX Load 7,500kg  
Power 3.5kW

### DSR160

MAX Load 3,000kg  
Power 2.0kW

### DSR120

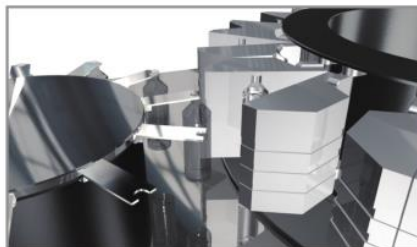
MAX Load 2,000kg  
Power 1.5kW

	DSR120	DSR160	DSR220	DSR300	DSR400	DSR500
Allowable max load	2,000kg	3,000kg	7,500kg	10,000kg	15,000kg	20,000kg
Table height	175mm	205mm	225mm	250mm	280mm	340mm
Table Diameter	Φ290mm	Φ375mm	Φ500mm	Φ700mm	Φ900mm	Φ1,136mm
Output hollow diameter	Φ130mm	Φ180mm	Φ255mm	Φ380mm	Φ500mm	Φ630mm
Recommended servo capacity	1.5kW	2.0kW	3.5kW	7.5kW	11.0kW	15.0kW
Standard reduction ratio	1/100	1/120	1/120	1/120	1/180	1/225
Repeatability	0.05mm (r=1,000mm)					

## Application examples



Welding process 180° rotation



Forming molds



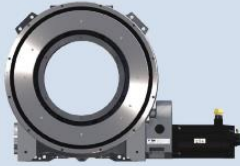
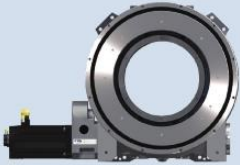
Assembly process

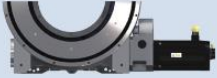
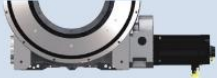


# Product code



	Type	Size	—	Reduction ratio	—	Motor position	Connector position	Installation position	—	Option
Ordering examples	DSR	220	—	120	—	R	1	H	—	B
	DSR	300	—	120	—	R	2	V	—	T M
	DSR	500	—	225	—	R	3	H	—	T B

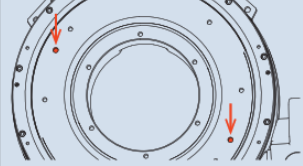
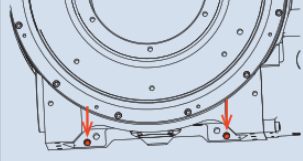
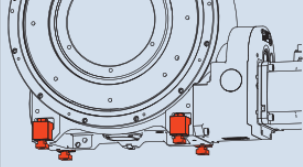
Type	Size	Reduction ratio
DSR	120	100
	160	120
	220	120
	300	120
	400	180
	500	225

Please contact us for non-standard ratio other than chart on the left.

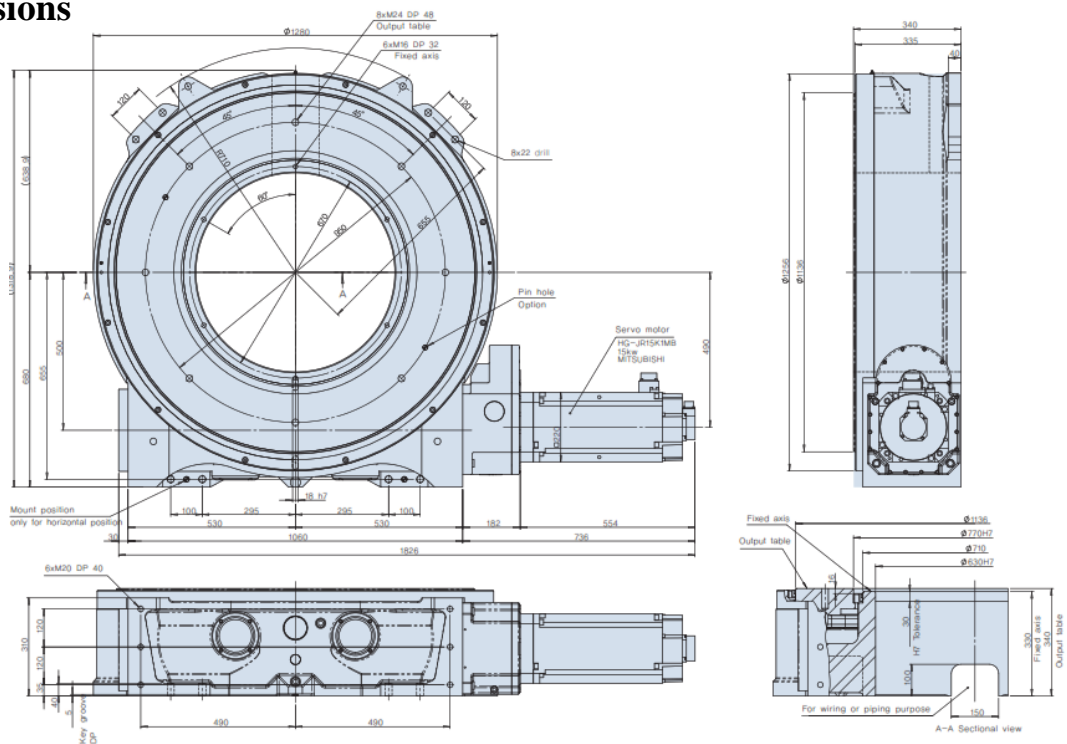
Motor position		
Right (Recommended)	R	
Left	L	

Connector position		
Inside direction	1	
Outside direction	2	
Upper direction	3	
Bottom direction	4	

Installation position		
Vertical	H	
Horizontal <small>※ DSR500 is exclusive model for vertical position. horizontal position is not possible for DSR500.</small>	V	
Others	Z	※ Setting of output as facing downward is not possible due to the function of oil-seal.

Option (Refer P9-10)		
2 pin holes on output table side.	T	
2 pin holes on housing	B	
4 mounts for horizontal position. <small>※ T Nut bolt is not included.</small>	M	

## Dimensions



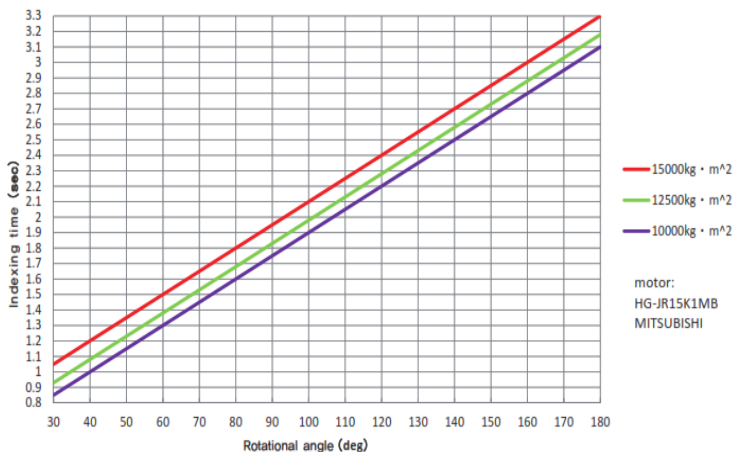
## Specifications

Type		DSR500
Center distance	[mm]	500
Reduction ratio *1	i	225(30x7.5)
Static rated output torque	Ts[N.m]	73,030
Moment of inner inertia based on Motor axis *2	J[kg.m <sup>2</sup> ]	252x10 <sup>-4</sup>
Max load	[kg]	20,000
Repeatability	[mm]	0.05 (R=1000)
Unit weight	[kg]	1,800
Recommended Servo Capacity *3	kW	15.0

※ For detailed dimensions, please refer to our homepage  
 ※ Able to install 15Kw servo motor disregarding the motor makers.  
 ※ Guide key is included

## Characteristics for rotation speed

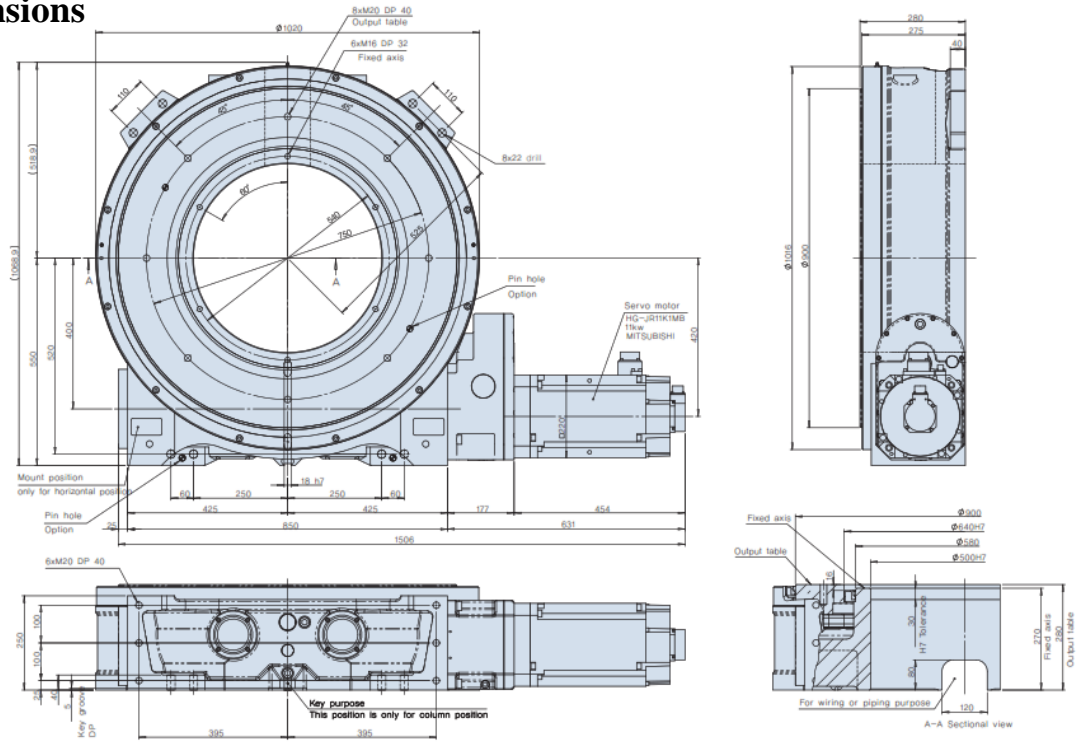
DSR500(Reduction ratio 225)



**Caution**

- To prepare for the case of torque due to gravity etc., please install the servo motor with brake type so output table can be stopped safely in situation such as power failure etc.
- \*1 Basic reduction ratio is 30 for the main body and 7.5 for 1<sup>st</sup> sub reduction. If you need other reduction ratio than the provided ratio, please contact us.
- \*2 Sum of the moment of inertia and moment of inner inertia based on motor axis cannot exceed recommended moment of inertia of servo motor.
- \*3 Please satisfy all requirements such as permissible torque, regenerative resistor for motor drive when selecting the motor.
- Installing process of the motor is performed by the manufacturer. Please do not disassemble it.
- Please contact us for further specification review.

## ■ Dimensions



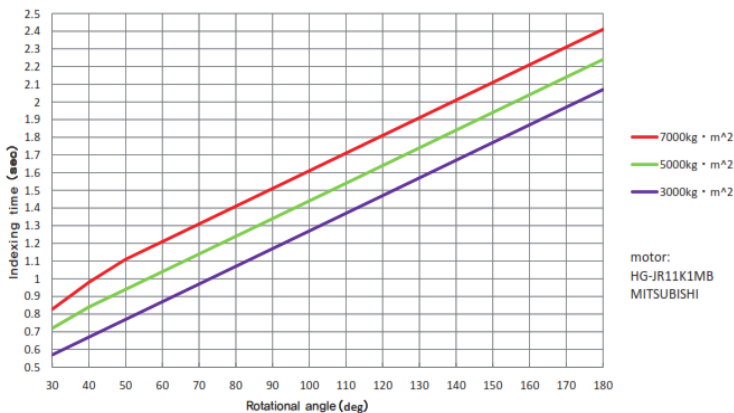
## ■ Specifications

Type	DSR400	
Center distance	[mm]	400
Reduction ratio *1	i	180(24x7.5)
Static rated output torque	Ts[N.m]	61,080
Moment of inner inertia based on Motor axis *2	J[kg.m <sup>2</sup> ]	147x10 <sup>-4</sup>
Max load	[kg]	15,000
Repeatability	[mm]	0.05 (R=1000)
Unit weight	[kg]	1,000
Recommended Servo Capacity *3	kW	11.0

※ For detailed dimensions, please refer to our homepage  
 ※ Able to install 11Kw servo motor disregarding the motor makers.  
 ※ Guide key is included

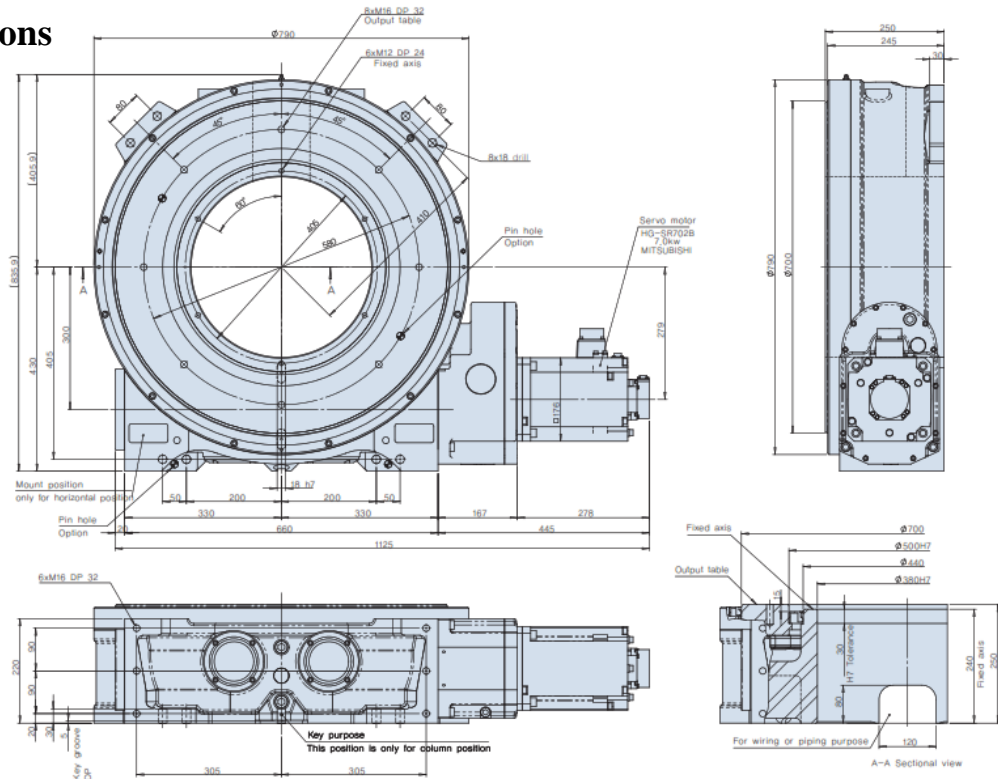
## ■ Characteristics for rotation speed

DSR400(Reduction ratio 180)



- To prepare for the case of torque due to gravity etc., please install the servo motor with brake type so output table can be stopped safely in situation such as power failure etc.
- \*1 Basic reduction ratio is 30 for the main body and 7.5 for 1<sup>st</sup> sub reduction. If you need other reduction ratio than the provided ratio, please contact us.
- \*2 Sum of the moment of inertia and moment of inner inertia based on motor axis cannot exceed recommended moment of inertia of servo motor.
- \*3 Please satisfy all requirements such as permissible torque, regenerative resistor for motor drive when selecting the motor.
- Installing process of the motor is performed by the manufacturer. Please do not disassemble it.
- Please contact us for further specification review.

## Dimensions



## Specifications

Type	DSR300	
Center distance	[mm]	300
Reduction ratio *1	i	120(24x5)
Static rated output torque	Ts[N.m]	26,492
Moment of inner inertia based on Motor axis *2	J[kg.m <sup>2</sup> ]	67.5x10 <sup>-4</sup>
Max load	[kg]	10,000
Repeatability	[mm]	0.05 (R=1000)
Unit weight	[kg]	560
Recommended Servo Capacity *3	kW	7.5

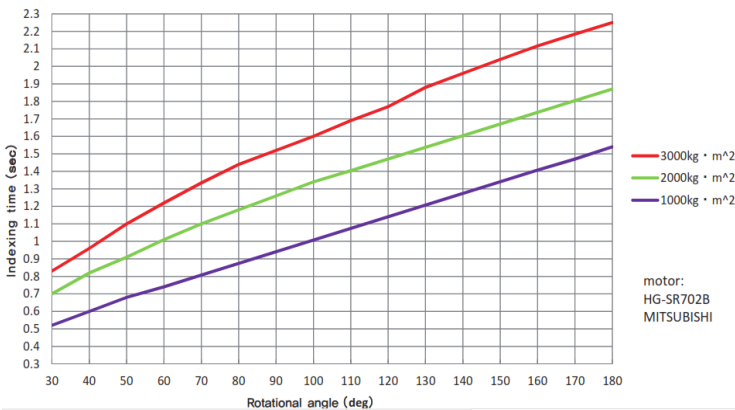
※ For detailed dimensions, please refer to our homepage

※ Able to install 7.5Kw servo motor disregarding the motor makers.

※ Guide key is included

## Characteristics for rotation speed

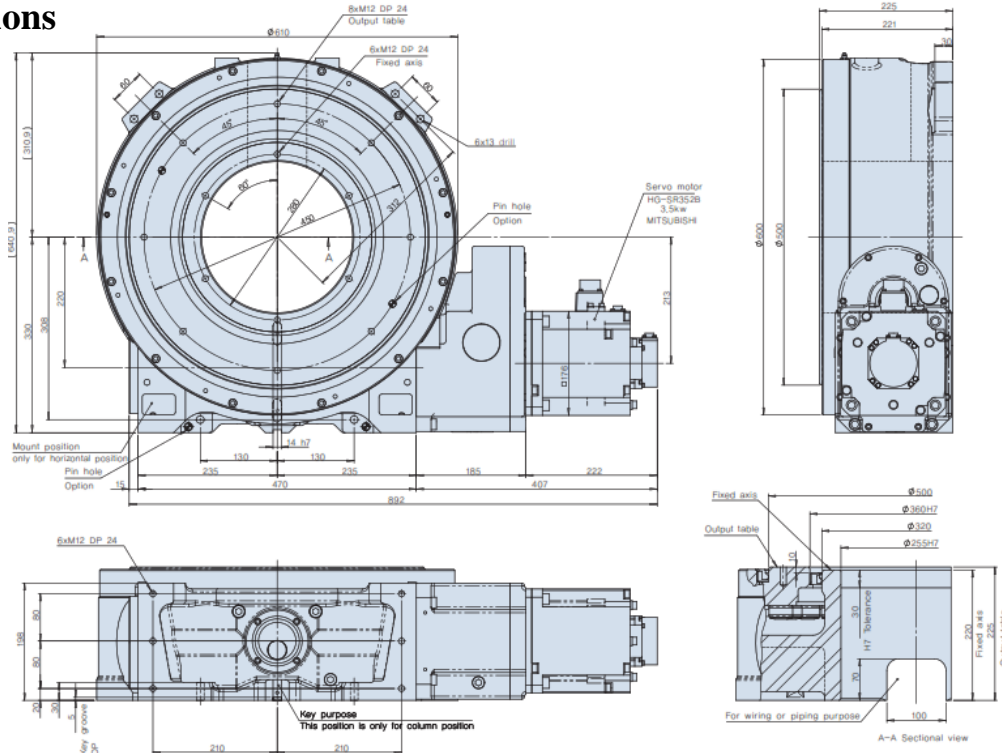
DSR300(Reduction ratio 120)



**Caution**

- To prepare for the case of torque due to gravity etc., please install the servo motor with brake type so output table can be stopped safely in situation such as power failure etc.
- \*1 Basic reduction ratio is 30 for the main body and 7.5 for 1<sup>st</sup> sub reduction. If you need other reduction ratio than the provided ratio, please contact us.
- \*2 Sum of the moment of inertia and moment of inner inertia based on motor axis cannot exceed recommended moment of inertia of servo motor.
- \*3 Please satisfy all requirements such as permissible torque, regenerative resistor for motor drive when selecting the motor.
- Installing process of the motor is performed by the manufacturer. Please do not disassemble it.
- Please contact us for further specification review.

## ■ Dimensions



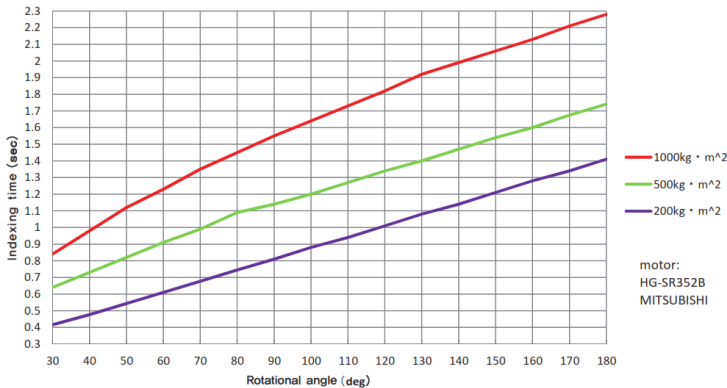
## ■ Specifications

Type	DSR220	
Center distance	[mm]	220
Reduction ratio *1	i	120(24x5)
Static rated output torque	Ts[N.m]	11,860
Moment of inner inertia based on Motor axis *2	J[kg.m <sup>2</sup> ]	44.8x10 <sup>-4</sup>
Max load	[kg]	7,500
Repeatability	[mm]	0.05 (R=1000)
Unit weight	[kg]	320
Recommended Servo Capacity *3	kW	3.5

※ For detailed dimensions, please refer to our homepage  
 ※ Able to install 3.5Kw servo motor disregarding the motor makers.  
 ※ Guide key is included

## ■ Characteristics for rotation speed

DSR220(Reduction ratio 120)

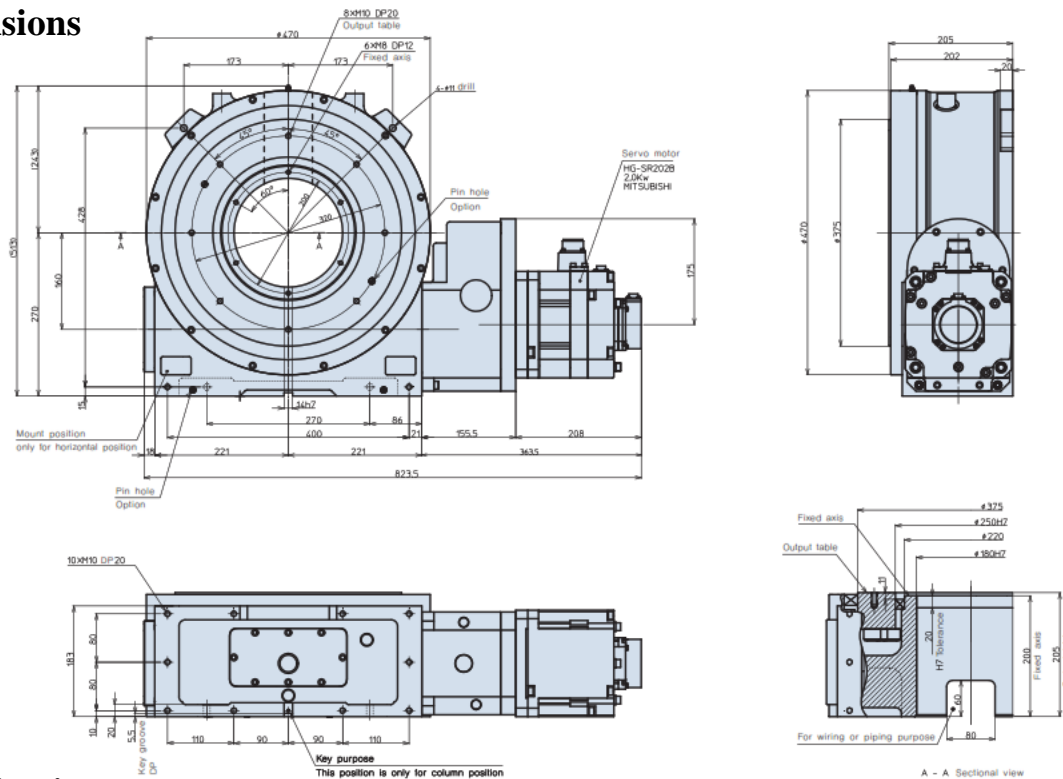


**Caution**

- To prepare for the case of torque due to gravity etc., please install the servo motor with brake type so output table can be stopped safely in situation such as power failure etc.
- \*1 Basic reduction ratio is 30 for the main body and 7.5 for 1<sup>st</sup> sub reduction. If you need other reduction ratio than the provided ratio, please contact us.
- \*2 Sum of the moment of inertia and moment of inner inertia based on motor axis cannot exceed recommended moment of inertia of servo motor.
- \*3 Please satisfy all requirements such as permissible torque, regenerative resistor for motor drive when selecting the motor.
- Installing process of the motor is performed by the manufacturer. Please do not disassemble it.
- Please contact us for further specification review.



## ■ Dimensions



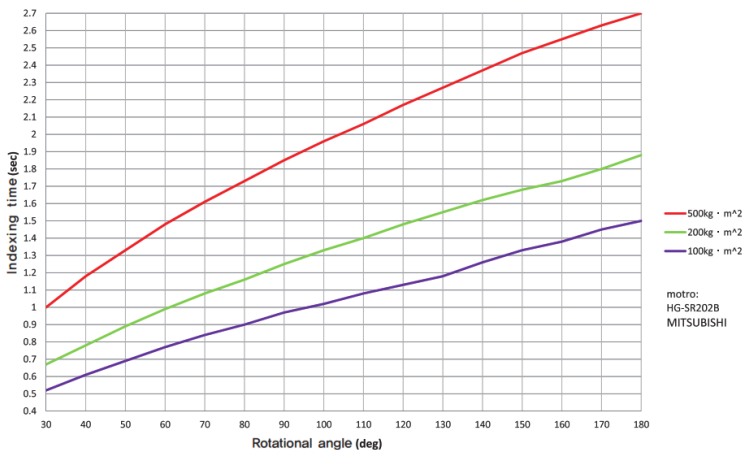
## ■ Specifications

Type		DSR160
Center distance	[mm]	160
Reduction ratio *1	i	120(24x5)
Static rated output torque	Ts[N.m]	5,400
Moment of inner inertia based on Motor axis *2	J[kg.m <sup>2</sup> ]	22.2x10 <sup>-4</sup>
Max load	[kg]	3,000
Repeatability	[mm]	0.05 (R=1000)
Unit weight	[kg]	200
Recommended Servo Capacity *3	kW	2.0

※ For detailed dimensions, please refer to our homepage  
 ※ Able to install 2.0kW servo motor disregarding the motor makers.  
 ※ Guide key is included

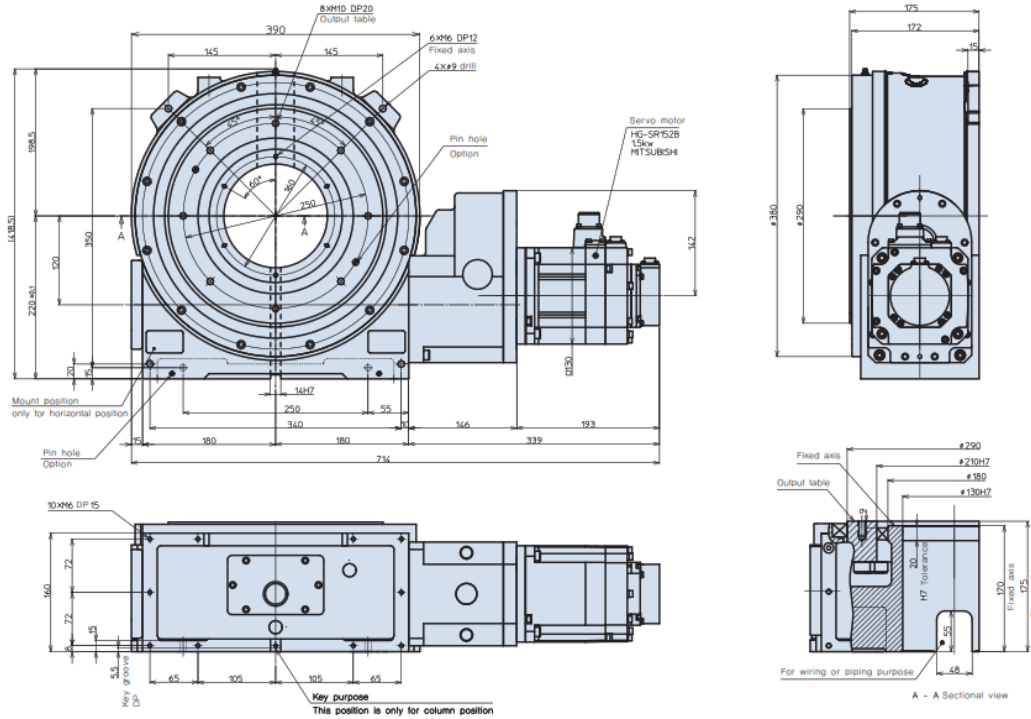
## ■ Characteristics for rotation speed

DSR160(Reduction ratio 120)



- To prepare for the case of torque due to gravity etc., please install the servo motor with brake type so output table can be stopped safely in situation such as power failure etc.
- \*1 Basic reduction ratio is 30 for the main body and 7.5 for 1<sup>st</sup> sub reduction. If you need other reduction ratio than the provided ratio, please contact us.
- \*2 Sum of the moment of inertia and moment of inner inertia based on motor axis cannot exceed recommended moment of inertia of servo motor.
- \*3 Please satisfy all requirements such as permissible torque, regenerative resistor for motor drive when selecting the motor.
- Installing process of the motor is performed by the manufacturer. Please do not disassemble it.
- Please contact us for further specification review.

## ■ Dimensions



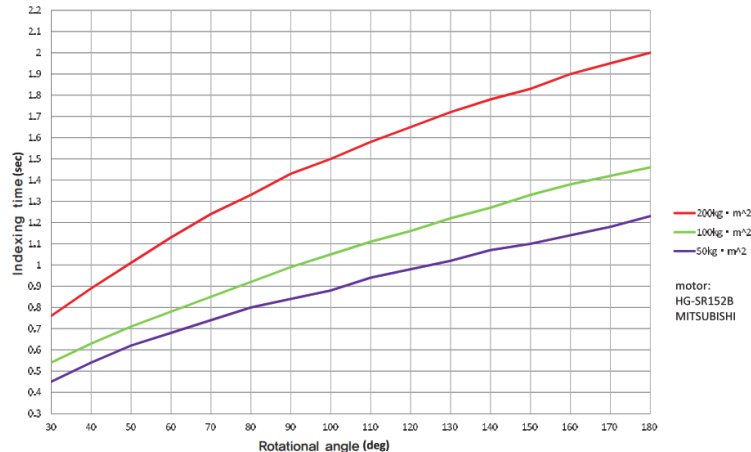
## ■ Specifications

Type		DSR120
Center distance	[mm]	120
Reduction ratio *1	i	100(20x5)
Static rated output torque	Ts[N.m]	2,400
Moment of inner inertia based on Motor axis *2	J[kg.m <sup>2</sup> ]	10.3x10 <sup>-4</sup>
Max load	[kg]	2,000
Repeatability	[mm]	0.05 (R=1000)
Unit weight	[kg]	100
Recommended Servo Capacity *3	kW	1.5

※ For detailed dimensions, please refer to our homepage  
 ※ Able to install 1.5kW servo motor disregarding the motor makers.  
 ※ Guide key is included

## ■ Characteristics for rotation speed

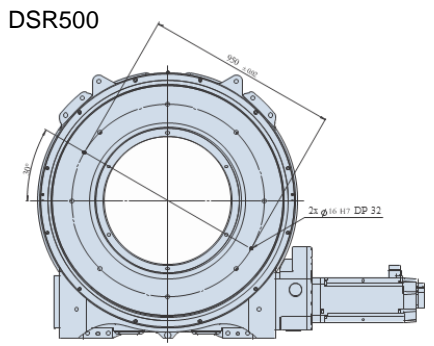
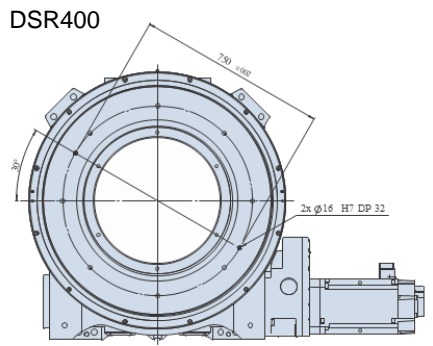
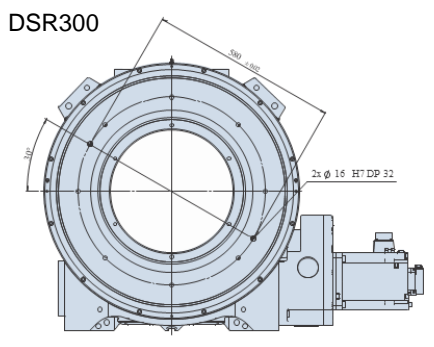
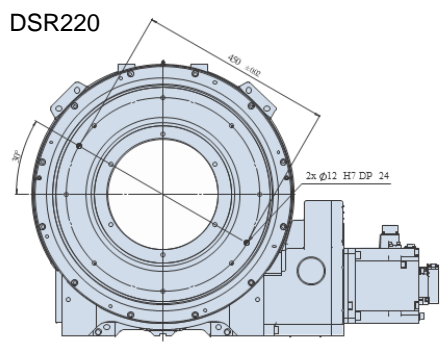
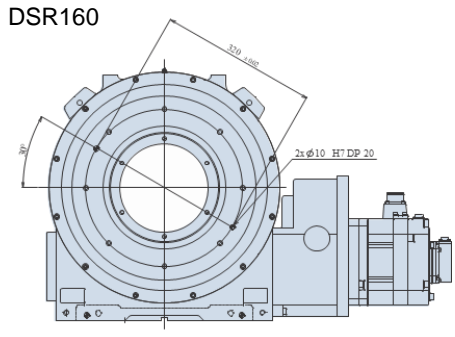
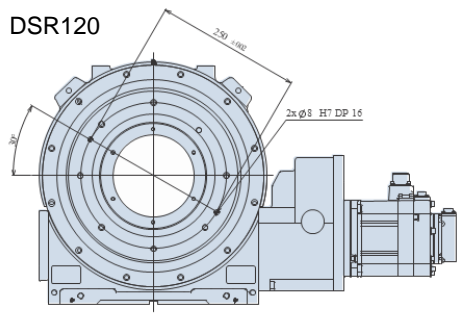
DSR120(Reduction ratio 100)



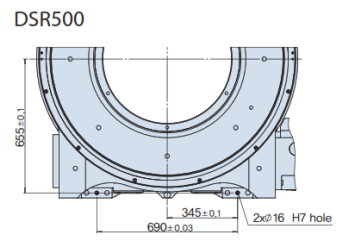
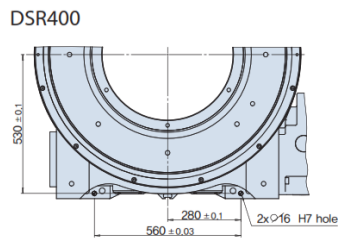
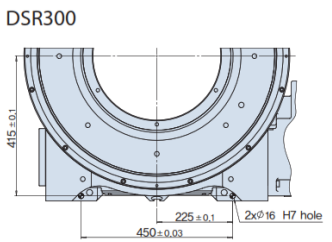
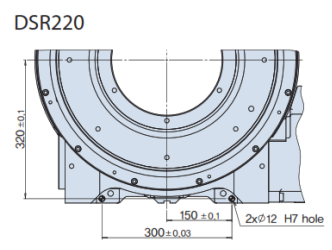
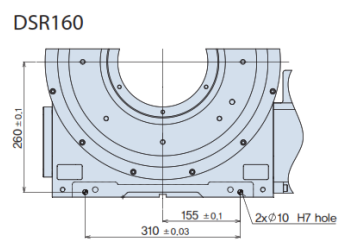
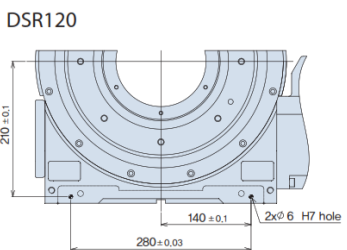
- To prepare for the case of torque due to gravity etc., please install the servo motor with brake type so output table can be stopped safely in situation such as power failure etc.
- \*1 Basic reduction ratio is 30 for the main body and 7.5 for 1<sup>st</sup> sub reduction. If you need other reduction ratio than the provided ratio, please contact us.
- \*2 Sum of the moment of inertia and moment of inner inertia based on motor axis cannot exceed recommended moment of inertia of servo motor.
- \*3 Please satisfy all requirements such as permissible torque, regenerative resistor for motor drive when selecting the motor.
- Installing process of the motor is performed by the manufacturer. Please do not disassemble it.
- Please contact us for further specification review.

# Optional dimensions

## Output pin holes



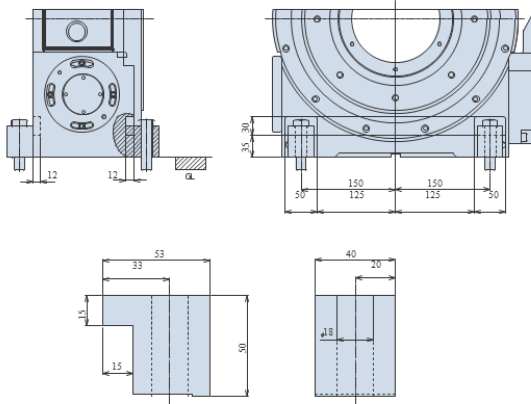
## Housing pin holes



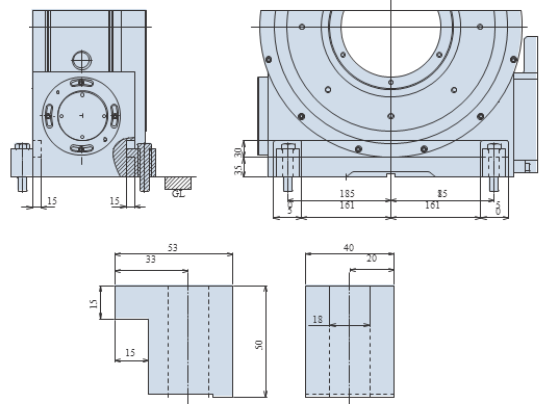
# Optional dimensions

## Mount for horizontal position

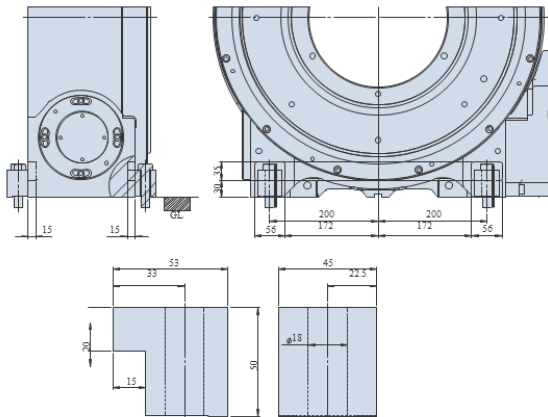
DSR120



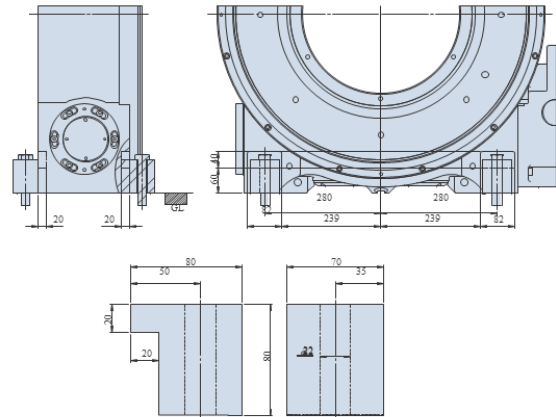
DSR160



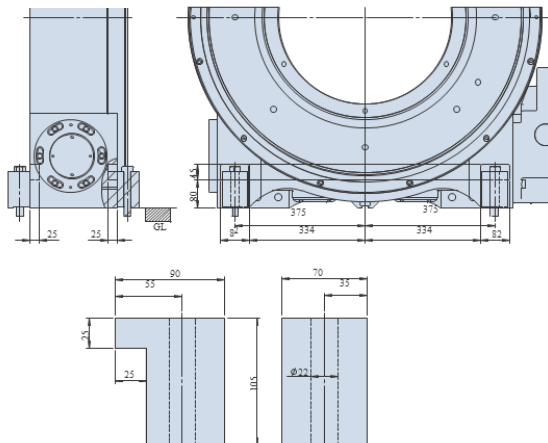
DSR220



DSR300



DSR400



**Caution**

- Please use T nut and bolt, which are available to the market.
- In the case of not using mount option of the manufacturer, please use mount that is available to the market.
- DSR500 is a model exclusive to vertical position. Horizontal position is not possible.

# Model select

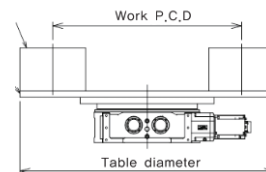
## ■ Fill out the request form before selecting a model

### 1. Applying work condition

Weight, moment of inertia for table, Jig and other works which are loaded and rotating.

List	unit
Table diameter	mm
Table weight	kg
Work (zig) P.C.D	mm
Work quantity/lea weight	kg
Number of work	ea

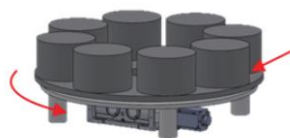
List	unit
Total moment of inertia	$\text{kg} \cdot \text{m}^2$
Total weight	kg



### 2. Load condition

Secondary load which occur by the work itself load and operation,

List	unit
Operation load torque	$\text{N} \cdot \text{m}$
Friction load torque	$\text{N} \cdot \text{m}$
Unbalance load torque	$\text{N} \cdot \text{m}$
Bending moment	$\text{N} \cdot \text{m}$



① Operation and friction load torque



② Unbalance load torque due to gravity.

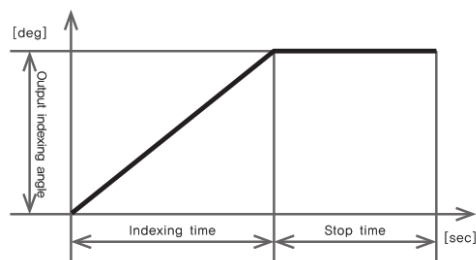


③ Bending moment due to the Eccentricity load

### 3. Operation condition

Indexing time (moving time), stop time and output indexing angle among operation

List	unit
Indexing time	sec.
Stop time	sec.
Output indexing angle	deg.
Emergency stop time	sec.
Emergency stop angle	deg.



### 4. Operation servo motor

If you have any questions about maker of servo motor (for application to DSR) please contact us,

#### Recommended motor maker

Mitsubishi

Yaskawa

Fanuc

# Model request form & terms

## DSR Series Model request form

(Please make copy and use it)

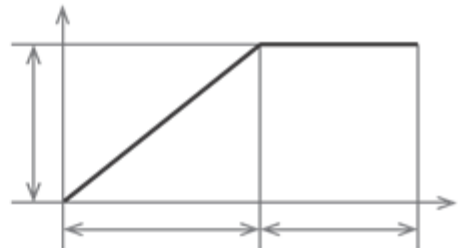
Company		TEL	
Contact person		E-mail	
Delivery		Order quantity	

※ is required field

	List	Value	Unit
Work load condition	Table diameter		mm
	Table weight		kg
	Work (jig)P.C.D		mm
	Work weight(based on 1ea)		kg
	Number of work		ea
	Total moment of inertia ※		kg m <sup>2</sup>
	Total weight ※		kg
	Operation load torque ※		N m
	Friction load torque -		N m
	Unbalance load torque -		N m
Bending moment ※		N m	



	List	Value	Unit
Operation condition	Indexing time ※		sec.
	Stop time ※		sec.
	Output indexing angle ※		deg.
	Emergency stop time		sec.
	Emergency stop angle		deg.



Applied motor ※  Assign the motor maker (Maker and specification)

# Related products

## INDIX series



## PGM series

Orthogonal input type accurate parallel gear head that minimizes height of device.





## **LPR Global, Inc.**

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URL: <https://www.uskoreahotlink.com/products/manufacturing/parts-feeding-systems-piezoelectric-vibrators>

