

# Center Column Indexing Drive 14DA

## 14DA Dimensions

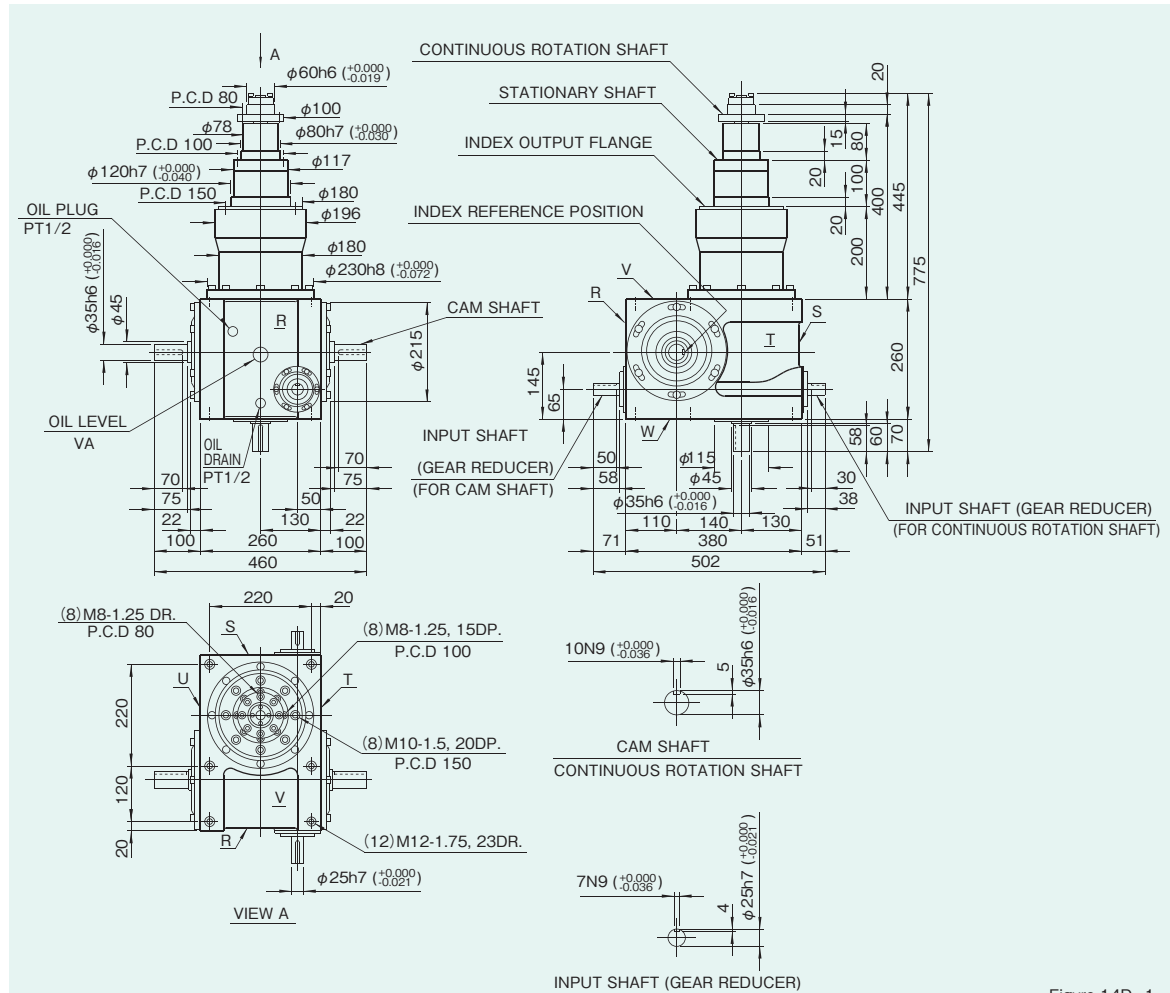


Figure 14DA-1

### Specifications

	Input			
	Item	Symbol	Unit	Value
Cam shaft	Allowable axial load	C <sub>9</sub>	N	2940
	Maximum repetitious bending force	C <sub>10</sub>	N	3675
	Maximum repetitious allowable torque	C <sub>11</sub>	N·m	588
	Torsional rigidity	K <sub>6</sub>	N·m/rad	1.37×10 <sup>5</sup>
	Input inertia	J <sub>1</sub>	kg·m <sup>2</sup>	4.5×10 <sup>-2</sup>
Worm shaft	Allowable axial load	C <sub>12</sub>	N	1078
	Maximum repetitious bending force	C <sub>13</sub>	N	1078
	Maximum repetitious allowable torque	C <sub>14</sub>	N·m	225.4
	Torsional rigidity	K <sub>8</sub>	N·m/rad	1.54×10 <sup>4</sup>
	Input inertia	J <sub>2</sub>	kg·m <sup>2</sup>	1.1×10 <sup>-3</sup>
Others	Product weight		kg	160
	Color			Beige
Oil capacity		ℓ	6	

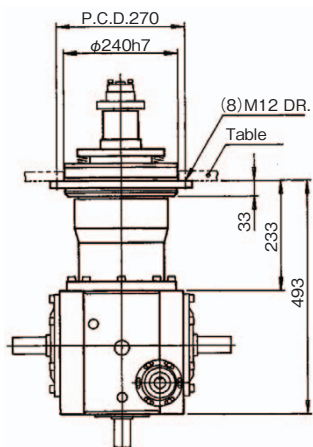
Note: Input inertia: J is calculated in dwell.

Table 14DA-1

	Output			
	Item	Symbol	Unit	Value
Continuous rotation shaft	Allowable axial load	C <sub>1</sub>	N	1470
	Allowable radial load	C <sub>2</sub>	N	2548
	Maximum repetitious allowable torque	C <sub>3</sub>	N·m	274.4
	Torsional rigidity	K <sub>1</sub>	N·m/rad	1.04×10 <sup>4</sup>
	Output inertia	J <sub>3</sub>	kg·m <sup>2</sup>	1.05×10 <sup>-2</sup>
Fixed shaft	Allowable axial load	C <sub>4</sub>	N	8134
	Allowable radial load	C <sub>5</sub>	N	3822
	Maximum repetitious allowable torque	C <sub>6</sub>	N·m	980
	Torsional rigidity	K <sub>3</sub>	N·m/rad	1.37×10 <sup>5</sup>
	Output inertia	J <sub>0</sub>	kg·m <sup>2</sup>	9.4×10 <sup>-2</sup>
Intermittent shaft	Allowable axial load	C <sub>7</sub>	N	9800
	Allowable radial load	C <sub>8</sub>	N	15680
	Allowable torque	T <sub>s</sub>	N·m	Refer to Torque Capacity Table
	Torsional rigidity	K <sub>4</sub>	N·m/rad	8.13×10 <sup>5</sup>
	Output inertia	J <sub>0</sub>	kg·m <sup>2</sup>	9.4×10 <sup>-2</sup>
Indexing accuracy		second	±30	

(1N=0.102kgf)

### Mounted accessories (11To mounted)



14DA (a)

# Center Column Indexing Drive 14DB

## 14DB Dimensions

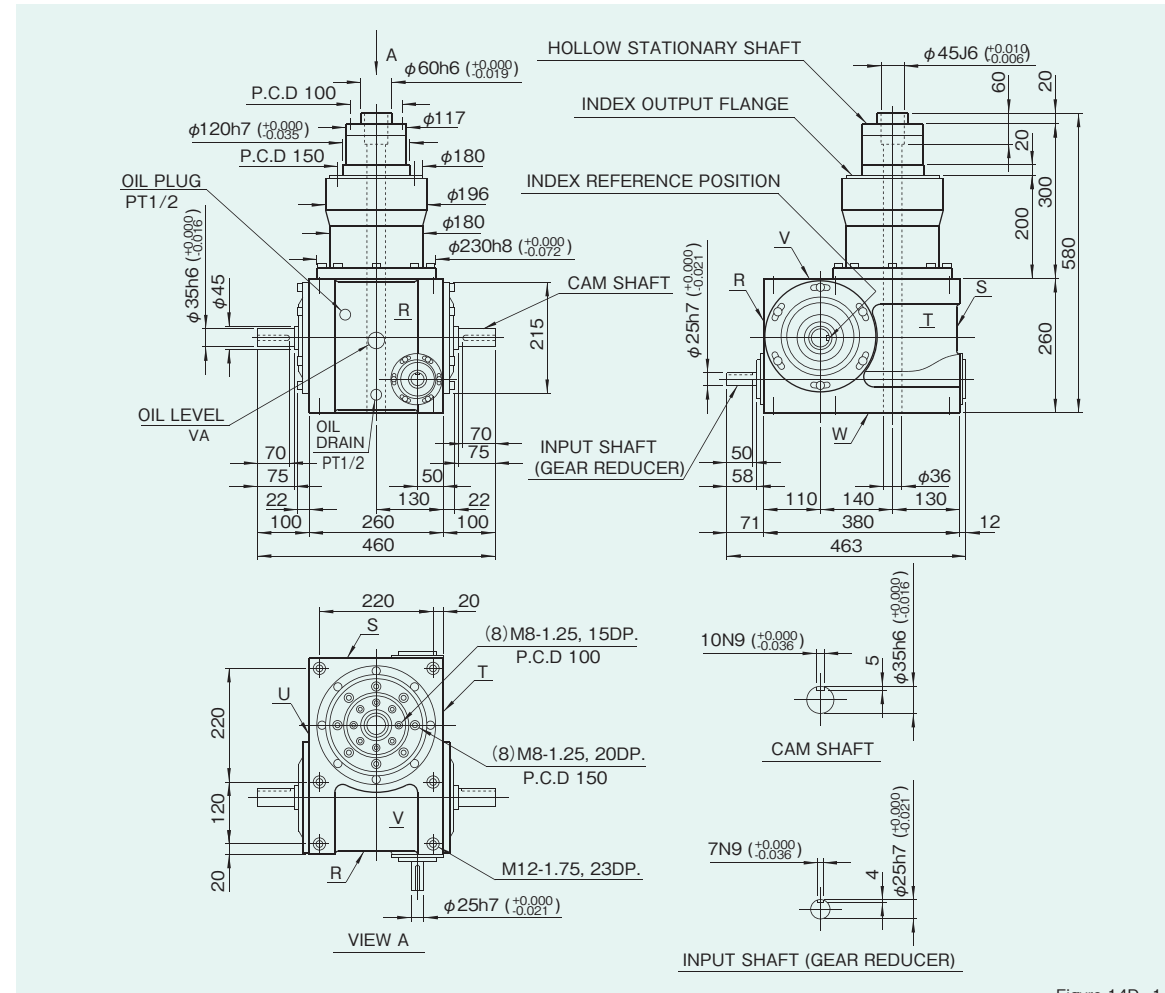


Figure 14DB-1

### Specifications

	Input			
	Item	Symbol	Unit	Value
Cam shaft	Allowable axial load	C <sub>9</sub>	N	2940
	Maximum repetitious bending force	C <sub>10</sub>	N	3675
	Maximum repetitious allowable torque	C <sub>11</sub>	N·m	588
	Torsional rigidity	K <sub>6</sub>	N·m/rad	1.37×10 <sup>5</sup>
	Input inertia	J <sub>1</sub>	kg·m <sup>2</sup>	4.5×10 <sup>-2</sup>
Worm shaft	Allowable axial load	C <sub>12</sub>	N	1078
	Maximum repetitious bending force	C <sub>13</sub>	N	1078
	Maximum repetitious allowable torque	C <sub>14</sub>	N·m	225.4
	Torsional rigidity	K <sub>8</sub>	N·m/rad	1.54×10 <sup>4</sup>
	Input inertia	J <sub>2</sub>	kg·m <sup>2</sup>	1.1×10 <sup>-3</sup>
Others	Product weight		kg	150
	Color			Beige
Oil capacity		ℓ	6	

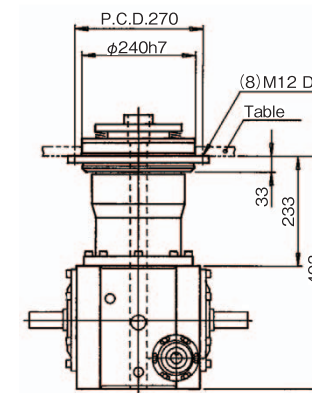
Note: Input inertia: J is calculated in dwell.

Table 14DB-1

	Output			
	Item	Symbol	Unit	Value
Hollow fixed shaft	Allowable axial load	C <sub>4</sub>	N	8134
	Allowable radial load	C <sub>5</sub>	N	3822
	Maximum repetitious allowable torque	C <sub>6</sub>	N·m	980
	Torsional rigidity	K <sub>3</sub>	N·m/rad	1.37×10 <sup>5</sup>
	Output inertia	J <sub>0</sub>	kg·m <sup>2</sup>	9.4×10 <sup>-2</sup>
Intermittent shaft	Allowable axial load	C <sub>7</sub>	N	9800
	Allowable radial load	C <sub>8</sub>	N	15680
	Maximum repetitious allowable torque	T <sub>s</sub>	N·m	Refer to Torque Capacity Table
	Torsional rigidity	K <sub>4</sub>	N·m/rad	8.13×10 <sup>5</sup>
	Output inertia	J <sub>0</sub>	kg·m <sup>2</sup>	9.4×10 <sup>-2</sup>
Indexing accuracy		second	±30	

(1N=0.102kgf)

### Mounted accessories (11To mounted)



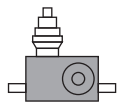
14DB (a)











## BH14 Dimensions

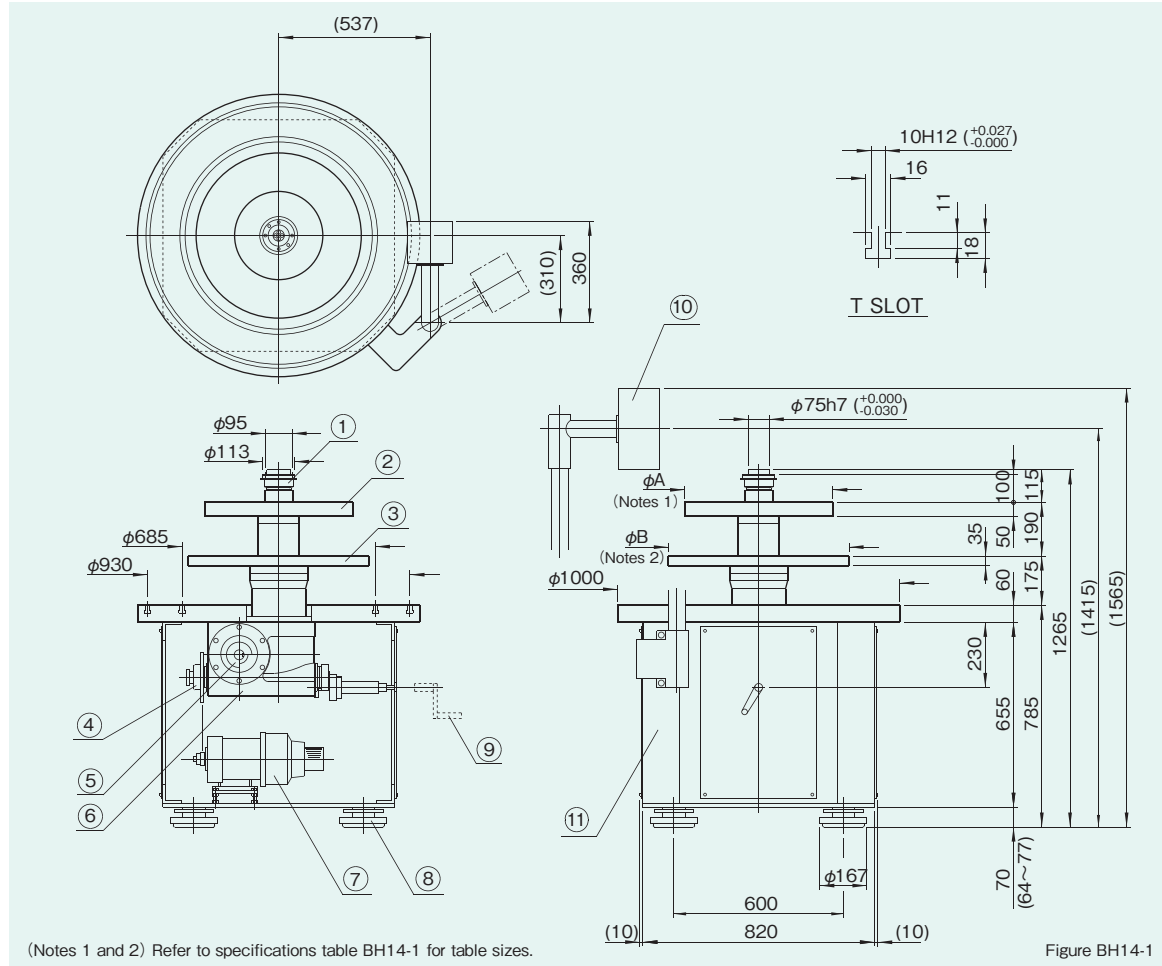


Figure BH14-1

(Notes 1 and 2) Refer to specifications table BH14-1 for table sizes.

### Name of parts

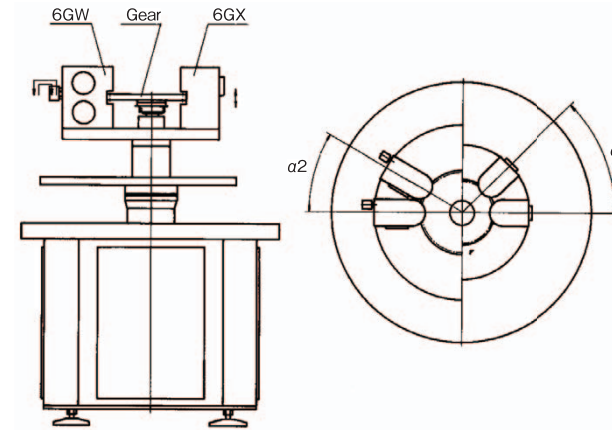
- ① Torque limiter 7TF
- ② Fixed table
- ③ Indexing table
- ④ Torque limiter 6TF
- ⑤ Timing cam
- ⑥ Center column type indexing drive 14CA
- ⑦ Motor with clutch/brake unit
- ⑧ Height adjustable feet
- ⑨ Manual operation handle
- ⑩ Operation control box
- ⑪ Main frame

### Specifications

Table BH14-1

Item	Model specifications	Standard specifications	Item	Model specifications	Standard specifications
Number of stops (S)	12	6, 8, 10, 12, 16, 20, 24	Indexing time	1sec	To be decided upon consultation
Index period ( $\theta$ )	90°	90°, 120°, 150°	Cycle time	4sec	To be decided upon consultation
Cam curve	Modified sine (MS)	Modified trapezoid, modified sine, modified constant velocity	Allowable loading capacity of indexing table	Depends on speed	
Indexing table size	600mm	max, 800mm (Notes 2)	Allowable loading capacity of fixed table	2940N	
Fixed table size	425mm	To be decided upon consultation (Notes 1)	Indexing accuracy	±10sec	±30sec
Parallelism between intermediate plate and indexing table	0.1mm/R200	To be decided upon consultation	Product weight	Approx. 800kg	
Indexing table runout	0.05mm/R200	To be decided upon consultation	Color	To be decided upon consultation	

## Base machine BH14 with parts handler 6GW and 6GX.



Minimal layout angle for gear P.C.D. of 232.5  $\alpha_1=45^\circ$   
 Minimal layout angle for gear P.C.D. of 307.5  $\alpha_2=30^\circ$

Figure BH14-2

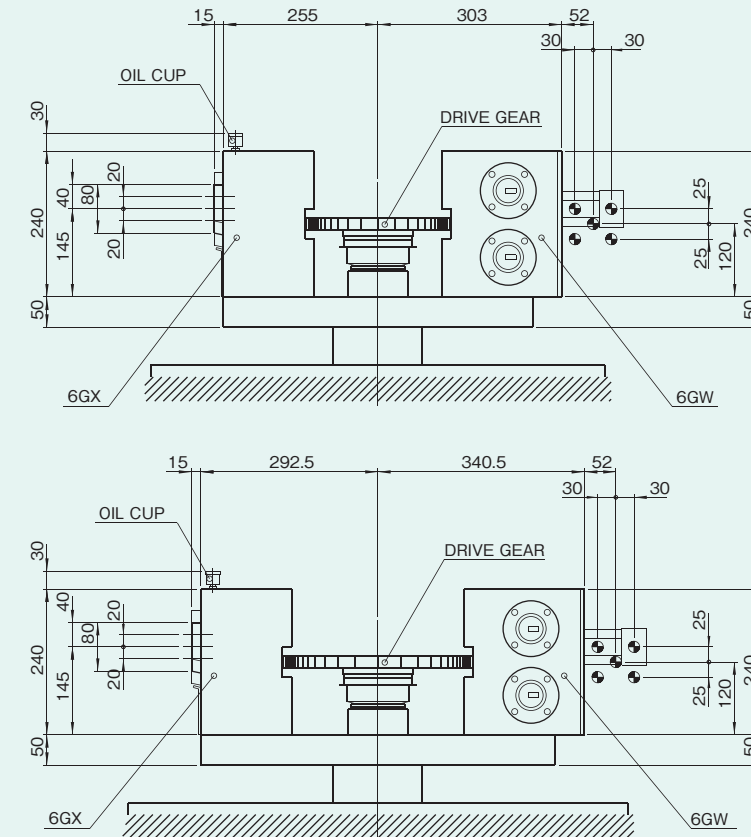
### Specifications of 6GW and 6GX

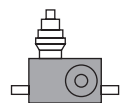
Table BH14-2

Number of stops S	Gear ratio of worm gear reducer on continuous indexing shaft	Gear ratio of worm gear reducer on continuous output shaft	Gear pitch diameter	Fixed table size	
				With 6GW	With 6GX
8	3/31	1/31	P.C.D.232.5 m=2.5	φ605	φ510
10	3/31	1/41	P.C.D.307.5 m=2.5	φ680	φ585
12	3/31	1/41	P.C.D.307.5 m=2.5	φ680	φ585

### Applications

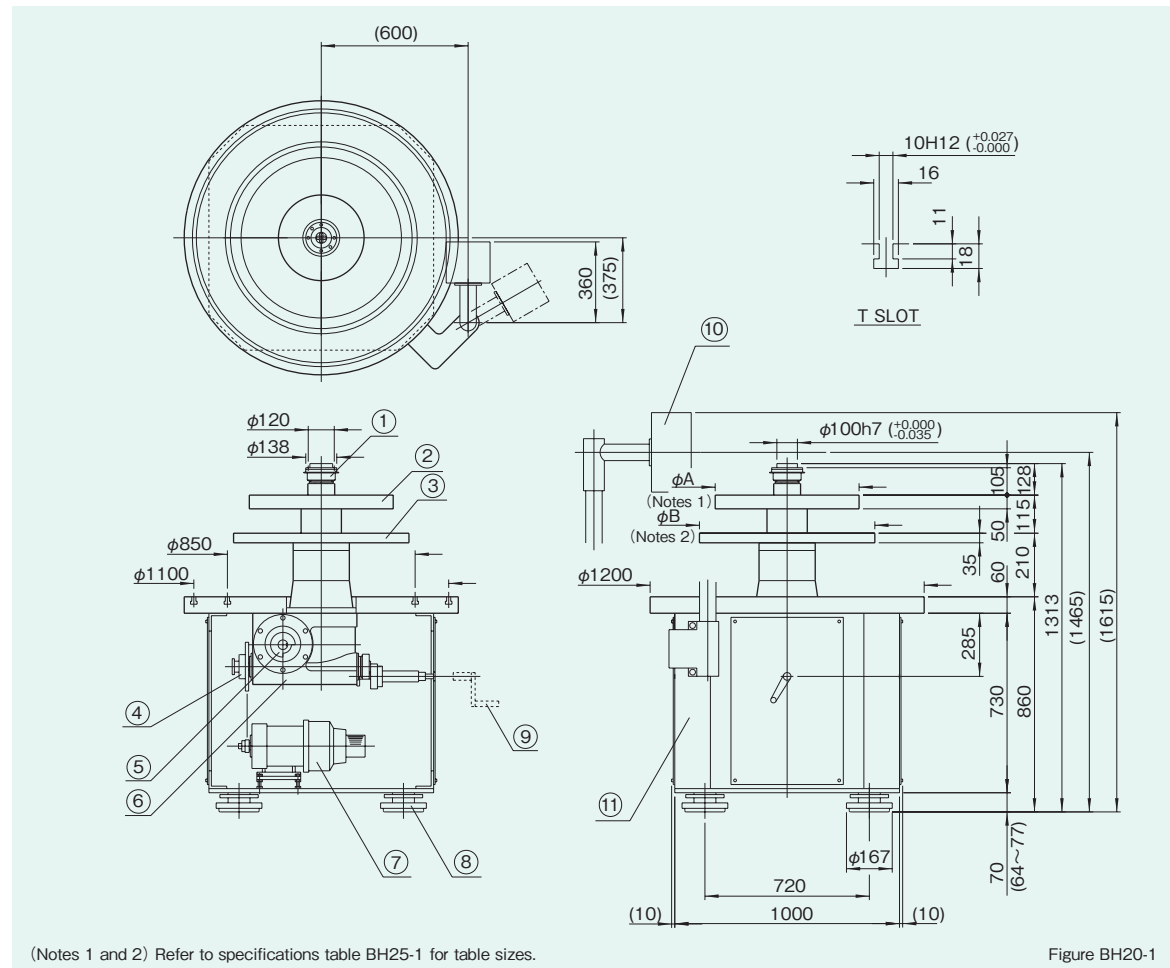
Figure BH14-3





# Base machine BH20

## BH20 Dimensions



(Notes 1 and 2) Refer to specifications table BH25-1 for table sizes.

Figure BH20-1

BH20

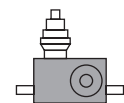
### Name of parts

- ① Torque limiter 8TF
- ② Fixed table
- ③ Indexing table
- ④ Torque limiter 7TF
- ⑤ Timing cam
- ⑥ Center column type indexing drive 20DA
- ⑦ Motor with clutch/brake unit
- ⑧ Height adjustable feet
- ⑨ Manual operation handle
- ⑩ Operation control box
- ⑪ Main frame

### Specifications

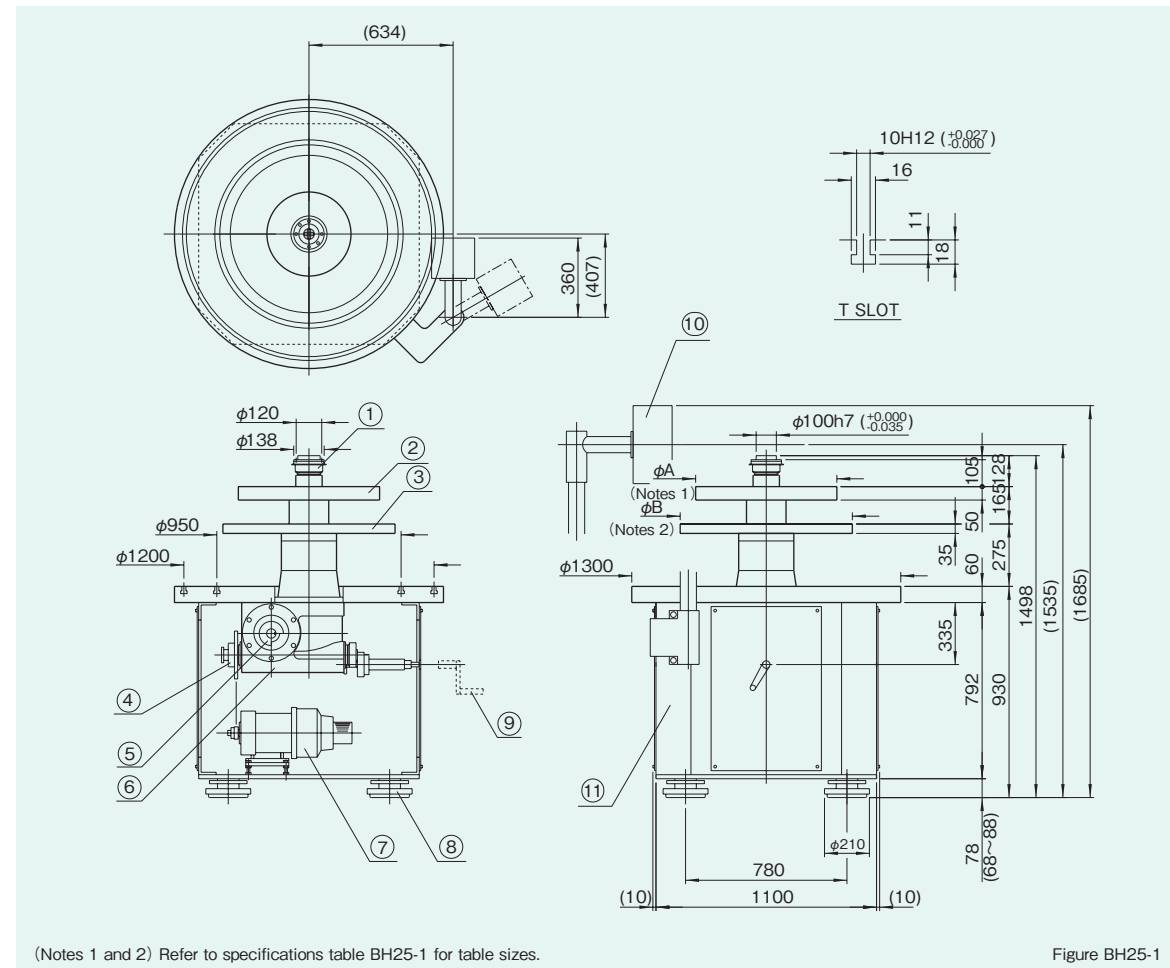
Table BH20-1

Item	Model specifications	Standard specifications	Item	Model specifications	Standard specifications
Number of stops (S)	12	6, 8, 10, 12, 16, 20, 24	Indexing time	1sec	To be decided upon consultation
Index period ( $\theta$ )	90°	90°, 120°, 150°	Cycle time	4sec	To be decided upon consultation
Cam curve	Modified sine (MS)	Modified trapezoid, modified sine, modified constant velocity	Allowable loading capacity of indexing table	Depends on speed	
Indexing table size	800mm	max, 900mm (Notes 2)	Allowable loading capacity of fixed table	3920N	
Fixed table size	500mm	To be decided upon consultation (Notes 1)	Indexing accuracy	±10sec	±30sec
Parallelism between intermediate plate and indexing table	0.1mm/R200	To be decided upon consultation	Product weight	Approx. 1200kg	
Indexing table runout	0.05mm/R200	To be decided upon consultation	Color	To be decided upon consultation	



# Base machine BH25

## BH25 Dimensions



(Notes 1 and 2) Refer to specifications table BH25-1 for table sizes.

Figure BH25-1

BH25

### Name of parts

- ① Torque limiter 8TF
- ② Fixed table
- ③ Indexing table
- ④ Torque limiter 7TF
- ⑤ Timing cam
- ⑥ Center column type indexing drive 25DA
- ⑦ Motor with clutch/brake unit
- ⑧ Height adjustable feet
- ⑨ Manual operation handle
- ⑩ Operation control box
- ⑪ Main frame

### Specifications

Table BH25-1

Item	Model specifications	Standard specifications	Item	Model specifications	Standard specifications
Number of stops (S)	12	6, 8, 10, 12, 16, 20, 24	Indexing time	1sec	To be decided upon consultation
Index period ( $\theta$ )	90°	90°, 120°, 150°	Cycle time	4sec	To be decided upon consultation
Cam curve	Modified sine (MS)	Modified trapezoid, modified sine, modified constant velocity	Allowable loading capacity of indexing table	Depends on speed	
Indexing table size	900mm	max, 1000mm (Notes 2)	Allowable loading capacity of fixed table	5390N	
Fixed table size	550mm	To be decided upon consultation (Notes 1)	Indexing accuracy	±10sec	±30sec
Parallelism between intermediate plate and indexing table	0.1mm/R200	To be decided upon consultation	Product weight	Approx. 1700kg	
Indexing table runout	0.05mm/R200	To be decided upon consultation	Color	To be decided upon consultation	