

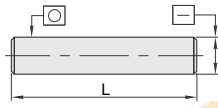
Accuracy Standards of Rotary Shafts and Driving Shafts

1、Dimension tolerance of L and linear dimensions

L		Dimension Tolerance
>	≤	
0.5	6	±0.1
6	30	±0.2
30	120	±0.3
120	400	±0.5
400	1000	±0.8

2、Circularity of Part D

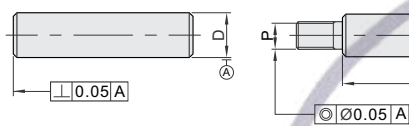
D		Circularity A
>	≤	
0.5	3	0.006
3	12	0.005
12	20	0.006
20	30	0.007
30	50	0.008



3、L Straightness

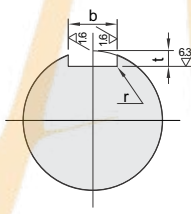
- D=2 : Straightness ≤ 0.1/100;
- D=2.5 : Straightness ≤ 0.08/100;
- D=3 : Straightness ≤ 0.05/100;
- D=4 : Straightness ≤ 0.04/100;
- D=5 : Straightness ≤ 0.03/100;
- D ≥ 6 : Straightness ≤ 0.01/100.

4、Concentricity and Perpendicularity

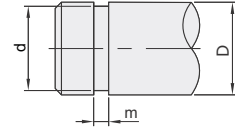


Keyway Dimension

Shaft Dia.	b		t		r
	Nominal Dimension	Tolerance (N9)	Nominal Dimension	Tolerance	
6~7	2	-0.004 -0.029	1.2	+0.1 0	0.1
8~10	3		1.8		
11~12	4		2.5		
13~17	5	0 -0.03	3.0	+0.2 0	0.2
18~22	6		3.5		
23~30	8	0 -0.036	4.0		
31~38	10		5.0	+0.2 0	0.3
39~44	12	0 -0.043			
45~50	14		5.5		



Detailed Retaining Ring Groove Dimensions Rotary and Driving Shafts



D	d	Slot Width (m)		Applicable Retaining Ring
		0.4	+0.05 0	
2	1.2	0.5	+0.1 0	JIS E Type 1.2
2.5	1.5			JIS E Type 1.5
3	2			JIS E Type 2
4	3	0.7	+0.1 0	JIS E Type 3
5	4			JIS E Type 4
6	5			JIS E Type 5
7	6	0.9	+0.1 0	JIS E Type 6
8	7			JIS E Type 7
9	8			JIS E Type 8
10	9.6	1.15	+0.14 0	JIS C Type 10
11	10.5			JIS C Type 11
12	11.5			JIS C Type 12
13	12.4			JIS C Type 13
14	13.4			JIS C Type 14
15	14.3			JIS C Type 15
16	15.2			JIS C Type 16
17	16.2			JIS C Type 17
18	17			JIS C Type 18
19	18			JIS C Type 19
20	19	1.35	+0.14 0	JIS C Type 20
21	20			JIS C Type 21
22	21			JIS C Type 22
23	22			JIS C Type 23
24	22.9			JIS C Type 24
25	23.9			JIS C Type 25
26	24.9			JIS C Type 26
28	26.6			JIS C Type 28
29	27.6			JIS C Type 29
30	28.6			JIS C Type 30
32	30.3	1.65	+0.14 0	JIS C Type 32
35	33			JIS C Type 35
40	38			JIS C Type 40
45	42.5			JIS C Type 45
50	47			JIS C Type 50

Use Example

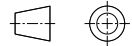
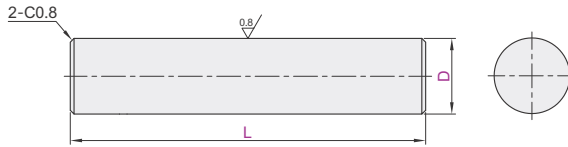


Precautions

Wear is a common problem in shaft use, Mainly due to the material properties of the shaft, Easy to cause adhesive wear, abrasive wear, fatigue wear, fretting wear, etc. And most of the shaft wear is not easy to detect, Only when the equipment has high temperature, large beating amplitude, abnormal noise, etc.

To be noticed, but at this point the shaft is worn. So during use, Shaft maintenance should be performed regularly, If wear occurs, the shaft should be repaired, May be replaced if not repaired, Avoid serious consequences.

Code	Type	D Tolerance	Material		Surface Treatment	
			GB	Equiv.		
MAC02	Standard	g6	45	S45C	Electroless Nickel Plating	
MAC11			0Cr18Ni9	SUS304	—	
MAC22			35CrMo	Hardness 28~33 HRC	Electroless Nickel Plating	
MAC32			45	S45C	Electroless Nickel Plating	
MAC41			0Cr18Ni9	SUS304	—	
MAC52		h7	45	S45C	Electroless Nickel Plating	
MAC61			0Cr18Ni9	SUS304	—	
			h9	45	S45C	Electroless Nickel Plating
				0Cr18Ni9	SUS304	—
				45	S45C	Electroless Nickel Plating



Ⓛ Circularity, straightness, perpendicularity and concentricity, please refer to the introduction of shaft products.

The first perspective

Ⓛ g6

Code	Part Number	D _{g6}	0.1 mm Inc.
MAC02 MAC11 MAC22	2		12.0~50.0
	2.5	-0.002 -0.008	12.0~150.0
	3		12.0~200.0
	4		12.0~250.0
	5	-0.004 -0.012	18.0~300.0
	6		18.0~400.0
	8	-0.005 -0.014	18.0~500.0
	10		25.0~600.0
	12		25.0~700.0
	13		25.0~800.0
	15	-0.006 -0.017	35.0~800.0
	16		45.0~800.0
	17		55.0~800.0
	18		65.0~800.0
	20		75.0~800.0
	22	-0.007 -0.020	95.0~800.0
	25		
	30		
	35	-0.009 -0.025	
	40		
50			

Ⓛ h7

Code	Part Number	D _{h7}	0.1 mm Inc.
MAC32 MAC41	6	0 -0.012	18.0~300.0
	8		18.0~400.0
	10	0 -0.015	18.0~500.0
	12		25.0~600.0
	15	0 -0.018	25.0~700.0
	20		35.0~800.0
	25	0 -0.021	45.0~800.0
	30		55.0~800.0
	35		65.0~800.0
	40	0 -0.025	75.0~800.0
	50		95.0~800.0



Optional Processing

Ⓛ h9

Code	Part Number	D _{h9}	0.1 mm Inc.
MAC52 MAC61	3	0 -0.025	12.0~150.0
	4		12.0~200.0
	5	0 -0.030	12.0~250.0
	6		18.0~300.0
	8	0 -0.036	18.0~400.0
	10		18.0~500.0
	12	0	25.0~600.0
	15	-0.043	25.0~700.0
	20		35.0~800.0
	25	0 -0.052	45.0~800.0
	30		55.0~800.0
	35		65.0~800.0
40	0 -0.062	75.0~800.0	
50		95.0~800.0	



Code	D	L
MAC02	2~2.5	12.0~50.0

MAC02—D2—L30

Ⓛ Optional Processing

Code	D	L	Optional Processing Code
MAC02	2~2.5	12.0~50.0	LA() LB() KE() (KB) KC() KD()

MAC02—D12—L100—KB50-S10



Per Price	1~4	5~
Additional Price	100%	Additional



Delivery	8
----------	---



Delivery	10
----------	----

Ⓛ No Surface Treatment Ⓛ with Surface Treatment

Code	Spec.																																							
LA() LB()	<p>Adds 1 Set Screw Flat. LA()</p> <p>Ordering Code LA10-G3 Ordering Code LB10-J3-Y10-X3</p> <p>Ⓛ 1 mm Inc. Ⓛ G·J·X ≤50. Ⓛ Not applicable to D2 and D2.5.</p>																																							
KE()	<p>Adds 2 Set Screw Flats. LB()</p> <p>Ordering Code KE5</p> <p>Ⓛ 1 mm Inc. Ⓛ Not applicable to D=2~5.</p> <table border="1"> <thead> <tr> <th>D</th> <th>H</th> </tr> </thead> <tbody> <tr><td>3~5</td><td>0.5</td></tr> <tr><td>6~17</td><td>1</td></tr> <tr><td>18~40</td><td>2</td></tr> <tr><td>50</td><td>3</td></tr> </tbody> </table>	D	H	3~5	0.5	6~17	1	18~40	2	50	3																													
D	H																																							
3~5	0.5																																							
6~17	1																																							
18~40	2																																							
50	3																																							
KB() KC()	<p>Adds a Wrench Flat</p> <p>Ordering Code KE5</p> <p>Ⓛ 1 mm Inc. Ⓛ Not applicable to D=2~5.</p> <table border="1"> <thead> <tr> <th>D</th> <th>W</th> <th>V1</th> </tr> </thead> <tbody> <tr><td>6</td><td>5</td><td>5</td></tr> <tr><td>8</td><td>7</td><td>5</td></tr> <tr><td>10</td><td>8</td><td>5</td></tr> <tr><td>12~13</td><td>10</td><td>5</td></tr> <tr><td>15~16</td><td>13</td><td>5</td></tr> <tr><td>17~18</td><td>14</td><td>10</td></tr> <tr><td>20~22</td><td>17</td><td>10</td></tr> <tr><td>25</td><td>22</td><td>10</td></tr> <tr><td>30</td><td>27</td><td>15</td></tr> <tr><td>35</td><td>30</td><td>15</td></tr> <tr><td>40</td><td>36</td><td>15</td></tr> <tr><td>50</td><td>41</td><td>20</td></tr> </tbody> </table>	D	W	V1	6	5	5	8	7	5	10	8	5	12~13	10	5	15~16	13	5	17~18	14	10	20~22	17	10	25	22	10	30	27	15	35	30	15	40	36	15	50	41	20
D	W	V1																																						
6	5	5																																						
8	7	5																																						
10	8	5																																						
12~13	10	5																																						
15~16	13	5																																						
17~18	14	10																																						
20~22	17	10																																						
25	22	10																																						
30	27	15																																						
35	30	15																																						
40	36	15																																						
50	41	20																																						
KB() KC()	<p>Adds 1 Keyway. KB()</p> <p>Ordering Code KB50-S10 Ordering Code KC50-C8-K40-T10</p> <p>Ⓛ 1 mm Inc. Ⓛ S·T·C ≤100. Ⓛ If 3 keyways are required, use both KB() and KC(). Ⓛ Not applicable to D=2~5. Ⓛ For keyway details, please refer to the product introduction.</p>																																							
KD()	<p>Adds 2 Keyways. KC()</p> <p>Ordering Code KC10</p> <p>Ⓛ 1 mm Inc. Ⓛ Only applicable to D=3~12.</p> <table border="1"> <thead> <tr> <th>D</th> <th>d</th> <th>V2</th> </tr> </thead> <tbody> <tr><td>3</td><td>2</td><td></td></tr> <tr><td>4</td><td>3</td><td>4</td></tr> <tr><td>5</td><td>4</td><td>4</td></tr> <tr><td>6</td><td>5</td><td>4</td></tr> <tr><td>8</td><td>7</td><td>4</td></tr> <tr><td>10</td><td>8</td><td>5</td></tr> <tr><td>12</td><td>10</td><td>5</td></tr> </tbody> </table>	D	d	V2	3	2		4	3	4	5	4	4	6	5	4	8	7	4	10	8	5	12	10	5															
D	d	V2																																						
3	2																																							
4	3	4																																						
5	4	4																																						
6	5	4																																						
8	7	4																																						
10	8	5																																						
12	10	5																																						

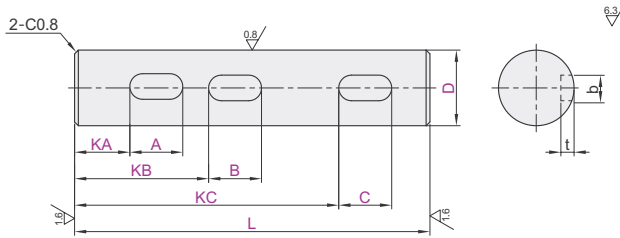
Rotary Shafts

with Keyways
Straight

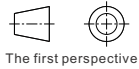
Code	Type	D Tolerance	Material		Surface Treatment
			GB	Equiv.	
MAE02	with Keyways	g6	45	S45C	Electroless Nickel Plating
MAE11			0Cr18Ni9	SUS304	—
MAE32		h7	45	S45C	Electroless Nickel Plating
MAE41			0Cr18Ni9	SUS304	—
MAE62		h9	45	S45C	Electroless Nickel Plating



self made



Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.
For keyway details, please refer to the rotary shafts product introduction.



g6

Part Number	Code	D _{g6}	L 0.1 mm Inc.	Keyway①	Keyway②	Keyway③
				KA-A	KB-B	KC-C
				1 mm Inc.		
6	MAE02	18.000	18.0~300.0	KA≥0 b≤A≤100	KB≥0 b≤B≤100	KC≥0 b≤C≤100
8	MAE11	18.000	18.0~400.0			
10		18.000	18.0~500.0			
12		25.000	25.0~600.0			
13		25.000	25.0~700.0			
15		25.000	25.0~800.0			
16		35.000	35.0~800.0			
17		45.000	45.0~800.0			
18		55.000	55.0~800.0			
20		65.000	65.0~800.0			
22		75.000	75.0~800.0			
25		95.000	95.0~800.0			

h7

Part Number	Code	D _{h7}	L 0.1 mm Inc.	Keyway①	Keyway②	Keyway③
				KA-A	KB-B	KC-C
				1 mm Inc.		
6	MAE32	18.000	18.0~300.0	KA≥0 b≤A≤100	KB≥0 b≤B≤100	KC≥0 b≤C≤100
8	MAE41	18.000	18.0~400.0			
10		18.000	18.0~500.0			
12		25.000	25.0~600.0			
15		25.000	25.0~700.0			
20		35.000	35.0~800.0			
25		45.000	45.0~800.0			
30		55.000	55.0~800.0			
35		65.000	65.0~800.0			
40		75.000	75.0~800.0			
50		95.000	95.0~800.0			

Rotary Shafts
A4



Code	Spec.																																							
LC	Changes L Dimension Tolerance Ordering Code: LC L < 400 changes to L±0.05 L ≥ 400 changes to L±0.1																																							
KD()	Adds a Slit Cam Groove Ordering Code: KD10 1 mm Inc. Only applicable to D=6-12. <table border="1"> <tr><th>D</th><th>d</th><th>V2</th></tr> <tr><td>6</td><td>5</td><td>4</td></tr> <tr><td>8</td><td>7</td><td>4</td></tr> <tr><td>10</td><td>8</td><td>5</td></tr> <tr><td>12</td><td>10</td><td>5</td></tr> </table>	D	d	V2	6	5	4	8	7	4	10	8	5	12	10	5																								
D	d	V2																																						
6	5	4																																						
8	7	4																																						
10	8	5																																						
12	10	5																																						
KE()	Adds a Wrench Flat Ordering Code: KE10 1 mm Inc. <table border="1"> <tr><th>D</th><th>W</th><th>V1</th></tr> <tr><td>6</td><td>5</td><td></td></tr> <tr><td>8</td><td>7</td><td>8</td></tr> <tr><td>10</td><td>8</td><td></td></tr> <tr><td>12</td><td>10</td><td></td></tr> <tr><td>15</td><td>13</td><td></td></tr> <tr><td>17</td><td>14</td><td>10</td></tr> <tr><td>20</td><td>17</td><td></td></tr> <tr><td>25</td><td>22</td><td></td></tr> <tr><td>30</td><td>27</td><td>15</td></tr> <tr><td>35</td><td>30</td><td></td></tr> <tr><td>40</td><td>36</td><td></td></tr> <tr><td>50</td><td>41</td><td>20</td></tr> </table>	D	W	V1	6	5		8	7	8	10	8		12	10		15	13		17	14	10	20	17		25	22		30	27	15	35	30		40	36		50	41	20
D	W	V1																																						
6	5																																							
8	7	8																																						
10	8																																							
12	10																																							
15	13																																							
17	14	10																																						
20	17																																							
25	22																																							
30	27	15																																						
35	30																																							
40	36																																							
50	41	20																																						
LA() LB()	Adds 1 Set Screw Flat. LA() LA(): Adds 1 set screw flat Ordering Code: LA10-G3 Adds 2 Set Screw Flats. LB() LB(): Adds 2 set screw flats Ordering Code: LB10-J3-Y10-X3 1 mm Inc. G·J·X ≤ 50. <table border="1"> <tr><th>D</th><th>H</th></tr> <tr><td>6~17</td><td>1</td></tr> <tr><td>18~40</td><td>2</td></tr> <tr><td>50</td><td>3</td></tr> </table>	D	H	6~17	1	18~40	2	50	3																															
D	H																																							
6~17	1																																							
18~40	2																																							
50	3																																							

h9

Part Number	Code	D _{h9}	L 0.1 mm Inc.	Keyway①	Keyway②	Keyway③
				KA-A	KB-B	KC-C
				1 mm Inc.		
6	MAE62	18.000	18.0~300.0	KA≥0 b≤A≤100	KB≥0 b≤B≤100	KC≥0 b≤C≤100
8		18.000	18.0~400.0			
10		18.000	18.0~500.0			
12		25.000	25.0~600.0			
15		25.000	25.0~700.0			
20		35.000	35.0~800.0			
25		45.000	45.0~800.0			
30		55.000	55.0~800.0			
35		65.000	65.0~800.0			



Part Number	D	L	KA-A	KB-B	KC-C
MAE02	6	18-300	KA≥0	KB≥0	KC≥0
	8	18-400	b≤A≤100	b≤B≤100	b≤C≤100

MAE02—D8—L350—KA10—A10—KB90—B30—KC210—C30

Optional Processing

Part Number	L	KA-A	KB-B	KC-C	Optional Processing Code
MAE02	6	18-300	KA≥0	KB≥0	KC≥0
	8	18-400	b≤A≤100	b≤B≤100	b≤C≤100

MAE02—D8—L350—KA10—A10—KB90—B30—KC210—C30—LC



Per Price	Discount
1~4	100%
5~	Additional quotation



Delivery
8



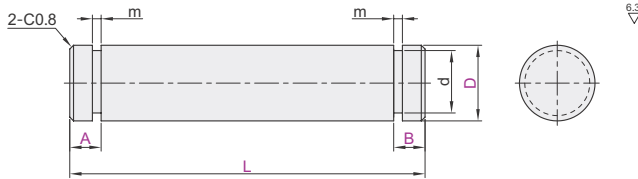
Delivery
10

No Surface Treatment with Surface Treatment

Code	Type	D Tolerance	Material		Surface Treatment
			GB	Equiv.	
MAD02	Retaining Ring Grooves on Both Ends	g6	45	S45C	Electroless Nickel Plating
MAD11			0Cr18Ni9	SUS304	—
MAD22			35CrMo	Hardness 28~33 HRC	Electroless Nickel Plating
MAD32		h7	45	S45C	Electroless Nickel Plating
MAD41			0Cr18Ni9	SUS304	—
MAD52			45	S45C	Electroless Nickel Plating
MAD61	h9	0Cr18Ni9	SUS304	—	



self made



Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.
For retaining rings details, please refer to the rotary shafts product introduction.

g6

Part Number	Code	D _{g6}	0.1 mm Inc.	1 mm Inc.	Accessory Retaining Ring 2 Pcs.
			L	A-B	
2			18.0~50.0		E Type 1.2
2.5		-0.002 -0.008			E Type 1.5
3			18.0~150.0	3≤A<L/2	E Type 2
4			18.0~200.0	3≤B<L/2	E Type 3
5		-0.004 -0.012	18.0~250.0		E Type 4
6			18.0~300.0		E Type 5
8		-0.005 -0.014	18.0~400.0	4≤A<L/2	E Type 7
10			20.0~500.0	4≤B<L/2	C Type 10
12			35.0~600.0		C Type 12
13					C Type 13
15		-0.006 -0.017	45.0~700.0		C Type 15
16			45.0~800.0	5≤A<L/2	C Type 16
17				5≤B<L/2	C Type 17
18			65.0~800.0		C Type 18
20					C Type 20
22		-0.007 -0.020			C Type 22
25					C Type 25
30			75.0~800.0	6≤A<L/2	C Type 30
35				6≤B<L/2	C Type 35
40		-0.009 -0.025	95.0~800.0		C Type 40
50					C Type 50

h7

Part Number	Code	D _{h7}	0.1 mm Inc.	1 mm Inc.	Accessory Retaining Ring 2 Pcs.
			L	A-B	
6			18.0~300.0	3≤A<L/2 3≤B<L/2	E Type 5
8		-0.012	18.0~400.0	4≤A<L/2	E Type 7
10		-0.015	20.0~500.0	4≤B<L/2	C Type 10
12			35.0~600.0	5≤A<L/2	C Type 12
15		-0.018	45.0~700.0	5≤B<L/2	C Type 15
20			65.0~800.0		C Type 20
25		-0.021			C Type 25
30			75.0~800.0	6≤A<L/2	C Type 30
35				6≤B<L/2	C Type 35
40		0	95.0~800.0		C Type 40
50		-0.025			C Type 50

h9

Part Number	Code	D _{h9}	0.1 mm Inc.	1 mm Inc.	Accessory Retaining Ring 2 Pcs.
			L	A-B	
3		0 -0.025	18.0~150.0		E Type 2
4			18.0~200.0	3≤A<L/2	E Type 3
5		0 -0.030	18.0~250.0	3≤B<L/2	E Type 4
6			18.0~300.0		E Type 5
8		0	18.0~400.0	4≤A<L/2	E Type 7
10		-0.036	20.0~500.0	4≤B<L/2	C Type 10
12			35.0~600.0		C Type 12
15		-0.043	45.0~700.0	5≤A<L/2	C Type 15
20			65.0~800.0	5≤B<L/2	C Type 20
25		0 -0.052			C Type 25
30			75.0~800.0	6≤A<L/2	C Type 30
35				6≤B<L/2	C Type 35
40		0 -0.062	95.0~800.0		C Type 40
50					C Type 50



Code	Spec.																																																						
LA(L) LB(L)	<p>Adds 1 Set Screw Flat. LA(L)</p> <p>Ordering Code: LA10-G3</p> <p>Ordering Code: LB10-J3-Y10-X3</p> <p>1 mm Inc.</p> <p>G·X ≤ 50.</p> <p>Not applicable to D=2 and D2.5.</p> <table border="1"> <tr><th>D</th><th>H</th></tr> <tr><td>3~5</td><td>0.5</td></tr> <tr><td>6~17</td><td>1</td></tr> <tr><td>18~40</td><td>2</td></tr> <tr><td>50</td><td>3</td></tr> </table>	D	H	3~5	0.5	6~17	1	18~40	2	50	3																																												
D	H																																																						
3~5	0.5																																																						
6~17	1																																																						
18~40	2																																																						
50	3																																																						
KE(L)	<p>Adds a Wrench Flat</p> <p>Ordering Code: KE5</p> <p>1 mm Inc.</p> <p>Not applicable to D=2~5.</p> <table border="1"> <tr><th>D</th><th>W</th><th>V1</th></tr> <tr><td>6</td><td>5</td><td>6</td></tr> <tr><td>8</td><td>7</td><td>6</td></tr> <tr><td>10</td><td>8</td><td>6</td></tr> <tr><td>12</td><td>10</td><td>12</td></tr> <tr><td>13</td><td>10</td><td>12</td></tr> <tr><td>14</td><td>10</td><td>12</td></tr> <tr><td>15</td><td>13</td><td>12</td></tr> <tr><td>16</td><td>13</td><td>12</td></tr> <tr><td>17</td><td>14</td><td>12</td></tr> <tr><td>18</td><td>14</td><td>12</td></tr> <tr><td>20</td><td>17</td><td>12</td></tr> <tr><td>22</td><td>17</td><td>12</td></tr> <tr><td>25</td><td>22</td><td>16</td></tr> <tr><td>30</td><td>27</td><td>16</td></tr> <tr><td>35</td><td>30</td><td>16</td></tr> <tr><td>40</td><td>38</td><td>20</td></tr> <tr><td>50</td><td>41</td><td>20</td></tr> </table>	D	W	V1	6	5	6	8	7	6	10	8	6	12	10	12	13	10	12	14	10	12	15	13	12	16	13	12	17	14	12	18	14	12	20	17	12	22	17	12	25	22	16	30	27	16	35	30	16	40	38	20	50	41	20
D	W	V1																																																					
6	5	6																																																					
8	7	6																																																					
10	8	6																																																					
12	10	12																																																					
13	10	12																																																					
14	10	12																																																					
15	13	12																																																					
16	13	12																																																					
17	14	12																																																					
18	14	12																																																					
20	17	12																																																					
22	17	12																																																					
25	22	16																																																					
30	27	16																																																					
35	30	16																																																					
40	38	20																																																					
50	41	20																																																					
KB(L) KC(L)	<p>Adds 1 Keyway. KB(L)</p> <p>Ordering Code: KB50-S10</p> <p>Ordering Code: KC50-C8-K40-T10</p> <p>1 mm Inc.</p> <p>S·T·C ≤ 100.</p> <p>If 3 keyways are required, use both KB(L) and KC(L).</p> <p>Not applicable to D=2~5.</p> <p>For keyway details, please refer to the product introduction.</p>																																																						
KD(L)	<p>Adds a Slit Cam Groove</p> <p>Ordering Code: KD10</p> <p>1 mm Inc.</p> <p>Only applicable to D=3~12.</p> <table border="1"> <tr><th>D</th><th>d</th><th>V2</th></tr> <tr><td>3</td><td>2</td><td></td></tr> <tr><td>4</td><td>3</td><td></td></tr> <tr><td>5</td><td>4</td><td>4</td></tr> <tr><td>6</td><td>5</td><td>4</td></tr> <tr><td>8</td><td>7</td><td></td></tr> <tr><td>10</td><td>8</td><td>5</td></tr> <tr><td>12</td><td>10</td><td></td></tr> </table>	D	d	V2	3	2		4	3		5	4	4	6	5	4	8	7		10	8	5	12	10																															
D	d	V2																																																					
3	2																																																						
4	3																																																						
5	4	4																																																					
6	5	4																																																					
8	7																																																						
10	8	5																																																					
12	10																																																						



Part Number	D	L	A-B
MAD02	2.5	18.0~30.0	3≤A<L/2 3≤B<L/2

MAD02—D2—L30—A12—B12

Optional Processing

Part Number	D	L	A-B	Optional Processing Code
MAD02	30	75~300	6≤A<D/2 6≤B<L/2	LA(L) LB(L) KE(L) KB(L) KC(L) KD(L)

MAD02—D25—L200—A30—B30—KB50-S10



Per Price	1~4	5~	Additional Auction
Price	100%	100%	



Delivery 8



Delivery 10

No Surface Treatment

with Surface Treatment

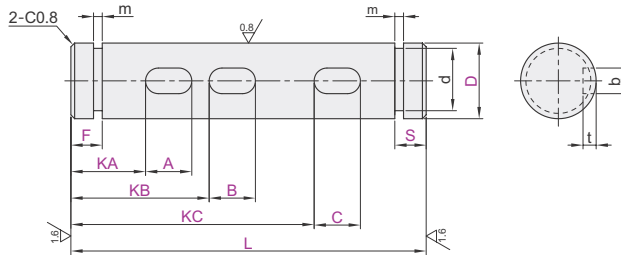
Rotary Shafts

Retaining Ring Grooves on Both Ends with Keyways Straight

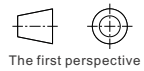
Code	Type	D Tolerance	Material		Surface Treatment
			GB	Equiv.	
MAF02	Retaining Ring Grooves on Both Ends with keyway	g6	45	S45C	Electroless Nickel Plating
MAF11			0Cr18Ni9	SUS304	—
MAF32		h7	45	S45C	Electroless Nickel Plating
MAF41			0Cr18Ni9	SUS304	—
MAF62		h9	45	S45C	Electroless Nickel Plating



self made



0.3



The first perspective

- ① Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.
- ② For keyway and retaining rings details, please refer to the rotary shafts product introduction.

g6

Part Number Code	D _{g6}	L 0.1 mm Inc.	F · S 1 mm Inc.	Keyway①	Keyway②	Keyway③	Retaining Ring No.
				KA-A	KB-B	KC-C	Accessories: Retaining Rings 2 Pcs
6	18.0~300.0	3≤F<L/2	3≤S<L/2				TBP12-5
8	18.0~400.0	4≤F<L/2					TBP12-7
10	20.0~500.0	4≤S<L/2					TBP02-10
12	35.0~600.0						TBP02-12
13							TBP02-13
15	45.0~700.0	5≤F<L/2					TBP02-15
16	45.0~800.0	5≤S<L/2					TBP02-16
MAF02				KA≥F	KB≥F	KC≥KB+B	TBP02-17
MAF11				b≤A≤100	b≤B≤100	b≤C≤100	TBP02-18
17	65.0~800.0						TBP02-20
20							TBP02-22
22							TBP02-25
25							TBP02-30
30	75.0~800.0	6≤F<L/2					TBP02-35
35		6≤S<L/2					TBP02-40
40							TBP02-50
50	95.0~800.0						TBP02-50

① MAF11 cannot select D13, 16, 18, 22.

h7

Part Number Code	D _{h7}	L 0.1 mm Inc.	F · S 1 mm Inc.	Keyway①	Keyway②	Keyway③	Retaining Ring No.
				KA-A	KB-B	KC-C	Accessories: Retaining Rings 2 Pcs
6	18.0~300.0	3≤F<L/2	3≤S<L/2				TBP12-5
8	18.0~400.0	4≤F<L/2					TBP12-7
10	20.0~500.0	4≤S<L/2					TBP02-10
12	35.0~600.0						TBP02-12
15	45.0~700.0	5≤F<L/2					TBP02-15
20	55.0~800.0	5≤S<L/2					TBP02-20
MAF32				KA≥F	KB≥F	KC≥KB+B	TBP02-25
MAF41				b≤A≤100	b≤B≤100	b≤C≤100	TBP02-30
25							TBP02-35
30	75.0~800.0	6≤F<L/2					TBP02-40
35		6≤S<L/2					TBP02-50
40							TBP02-50
50	95.0~800.0						TBP02-50

h9

Part Number Code	D _{h9}	L 0.1 mm Inc.	F · S 1 mm Inc.	Keyway①	Keyway②	Keyway③	Retaining Ring No.
				KA-A	KB-B	KC-C	Accessories: Retaining Rings 2 Pcs
6	18.0~300.0	3≤F<L/2	3≤S<L/2				TBP12-5
8	18.0~400.0	4≤F<L/2					TBP12-7
10	20.0~500.0	4≤S<L/2					TBP02-10
12	35.0~600.0						TBP02-12
15	45.0~700.0	5≤F<L/2					TBP02-15
20	55.0~800.0	5≤S<L/2					TBP02-20
MAF62				KA≥F	KB≥F	KC≥KB+B	TBP02-25
25				b≤A≤100	b≤B≤100	b≤C≤100	TBP02-30
30	75.0~800.0	6≤F<L/2					TBP02-35
35		6≤S<L/2					TBP02-35



Code	Spec.																																							
KD()	<p>Adds a Slit Cam Groove [Ordering Code] KD10</p> <p>① 1 mm Inc.</p> <p>② Only applicable to D=6~12.</p> <table border="1"> <tr><th>D</th><th>d</th><th>V₂</th></tr> <tr><td>6</td><td>5</td><td>4</td></tr> <tr><td>8</td><td>7</td><td>4</td></tr> <tr><td>10</td><td>8</td><td>5</td></tr> <tr><td>12</td><td>10</td><td>5</td></tr> </table>	D	d	V ₂	6	5	4	8	7	4	10	8	5	12	10	5																								
D	d	V ₂																																						
6	5	4																																						
8	7	4																																						
10	8	5																																						
12	10	5																																						
KE()	<p>Adds a Wrench Flat [Ordering Code] KE10</p> <p>① 1 mm Inc.</p> <table border="1"> <tr><th>D</th><th>W</th><th>V₁</th></tr> <tr><td>6</td><td>5</td><td>10</td></tr> <tr><td>8</td><td>7</td><td>10</td></tr> <tr><td>10</td><td>8</td><td>10</td></tr> <tr><td>12</td><td>10</td><td>10</td></tr> <tr><td>15</td><td>13</td><td>12</td></tr> <tr><td>17</td><td>14</td><td>12</td></tr> <tr><td>20</td><td>17</td><td>12</td></tr> <tr><td>25</td><td>22</td><td>16</td></tr> <tr><td>30</td><td>27</td><td>16</td></tr> <tr><td>35</td><td>30</td><td>16</td></tr> <tr><td>40</td><td>36</td><td>20</td></tr> <tr><td>50</td><td>41</td><td>20</td></tr> </table>	D	W	V ₁	6	5	10	8	7	10	10	8	10	12	10	10	15	13	12	17	14	12	20	17	12	25	22	16	30	27	16	35	30	16	40	36	20	50	41	20
D	W	V ₁																																						
6	5	10																																						
8	7	10																																						
10	8	10																																						
12	10	10																																						
15	13	12																																						
17	14	12																																						
20	17	12																																						
25	22	16																																						
30	27	16																																						
35	30	16																																						
40	36	20																																						
50	41	20																																						
LA() LB()	<p>Adds 1 Set Screw Flat. LA() [Ordering Code] LA10-G3</p> <p>[Ordering Code] LB10-J3-Y10-X3</p> <p>① 1 mm Inc.</p> <p>② G·J·X ≤50.</p> <table border="1"> <tr><th>D</th><th>H</th></tr> <tr><td>6~17</td><td>1</td></tr> <tr><td>18~40</td><td>2</td></tr> <tr><td>50</td><td>3</td></tr> </table>	D	H	6~17	1	18~40	2	50	3																															
D	H																																							
6~17	1																																							
18~40	2																																							
50	3																																							

\$	Discount price
	Per 1~4 5~
	Price 100% Additional quotation

Delivery	8
	① No Surface Treatment

Delivery	10
	② with Surface Treatment



Part Number	D	L	F·S	KA-A	KB-B	KC-C
MAF02	6	18-300	3≤F<L/2	KA≥0	KB≥0	KC≥0
MAF11	8	18-400	4≤F<L/2	b≤A≤100	b≤B≤100	b≤C≤100

MAF02—D8—L350—F5—S5—KA10—A10—KB90—B30—KC210—C30

Optional Processing

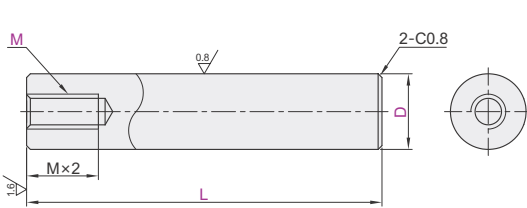
Part Number	D	L	F·S	KA-A	KB-B	KC-C	Optional Processing Code
MAF02	6	18-300	3≤F<L/2	KA≥0	KB≥0	KC≥0	AD KD() KE()...
MAF11	8	18-400	4≤F<L/2	b≤A≤100	b≤B≤100	b≤C≤100	AD KD() KE()...

MAF02—D8—L350—F5—S5—KA10—A10—KB90—B30—KC210—C30—LA280—G10

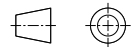
One End Tapped, Standard Straight

Rotary Shafts

Code	Type	D Tolerance	Material		Surface Treatment
			GB	Equiv.	
MAG02	One End Tapped Standard	g6	45	S45C	Electroless Nickel Plating
MAG16			0Cr18Ni9	SUS304	—
MAG32			35CrMo	SCM435 Hardness 28-33 HRC	Electroless Nickel Plating
MAG42		h7	45	S45C	Electroless Nickel Plating
MAG46			0Cr18Ni9	SUS304	—
MAG72			45	S45C	Electroless Nickel Plating
MAG76		h9	45	S45C	Electroless Nickel Plating
			0Cr18Ni9	SUS304	—



D	g6	h7	h9
4~6	-0.004 -0.012	0 -0.012	0 -0.030
8-10	-0.005 -0.014	0 -0.015	0 -0.036
12~18	0 -0.017	0 -0.018	0 -0.043
20~30	-0.007 -0.020	0 -0.021	0 -0.052
35~50	-0.009 -0.025	0 -0.025	0 -0.062



Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.

The first perspective

g6

Part Number Code	D _{g6}	0.1 mm Inc. L	M							
			2	3	4	5				
	4	12.0~200.0	2							
	5	12.0~250.0	2.6	3						
	6	18.0~300.0		4						
	8	18.0~400.0		4	5	6				
	10	18.0~500.0		4	5	6				
	12	25.0~600.0			5	6	8			
	13	25.0~600.0			5	6	8			
MAG02	15	25.0~700.0			5	6	8	10		
MAG16	16	25.0~800.0			5	6	8	10		
MAG32	17				5	6	8	10	12	
	18	35.0~800.0			5	6	8	10	12	
	20				5	6	8	10	12	16
	22				5	6	8	10	12	16
	25	45.0~800.0			5	6	8	10	12	16
	30	55.0~800.0			8	10	12	16	20	
	35	65.0~800.0			8	10	12	16	20	24
	40	75.0~800.0				12	16	20	24	30
	50	95.0~800.0					16	20	24	30



Please order as shown

Part Number Code	D	L	M
MAG02	4	25.0~600.0	5 6 8
	13		5 6 8

MAG02—D12—L30—M6

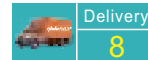
Optional Processing

Part Number Code	D	L	M	Optional Processing Code
MAG02	4	25.0~600.0	5 6 8	LA()...
	13		5 6 8	

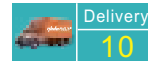
MAG02—D12—L30—M6—LC



Discount price
Per 1~4 5~
Price 100% Additional quotation



No Surface Treatment



with Surface Treatment

h7

Part Number Code	D _{h7}	0.1 mm Inc. L	M							
			2	3	4	5				
	4	12.0~200.0	2							
	5	12.0~250.0	2.6	3						
	6	18.0~300.0		3	4					
	8	18.0~400.0		3	4	5	6			
	10	18.0~500.0		4	5	6				
	12	25.0~600.0			5	6	8			
MAG42	15	25.0~700.0			5	6	8	10		
MAG46	20	35.0~800.0			5	6	8	10	12	16
	25	45.0~800.0			5	6	8	10	12	16
	30	55.0~800.0			8	10	12	16	20	
	35	65.0~800.0			8	10	12	16	20	24
	40	75.0~800.0				16	20	24	30	
	50	95.0~800.0					16	20	24	30

h9

Part Number Code	D _{h9}	0.1 mm Inc. L	M							
			2	3	4	5				
	4	12.0~200.0	2							
	5	12.0~250.0	2.6	3						
	6	18.0~300.0		3	4					
	8	18.0~400.0		3	4	5	6			
	10	18.0~500.0		4	5	6				
MAG72	12	25.0~600.0			5	6	8			
MAG76	15	25.0~700.0			5	6	8	10		
	20	35.0~800.0			5	6	8	10	12	16
	25	45.0~800.0			5	6	8	10	12	16
	30	55.0~800.0			8	10	12	16	20	
	35	65.0~800.0			8	10	12	16	20	24



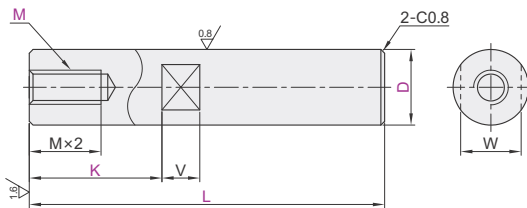
Optional Processing

Code	Changes L Dimension Tolerance	Set Screw Flat	Add Keyway	Adds a Slit Cam Groove																							
			Adds 1 Set Screw Flat. LA() Adds 2 Set Screw Flats. LB() 	Adds 1 Keyway. KB() Adds 2 Keyways. KC() 																							
Spec.	Ordering Code LC L < 400 changes to L _{±0.05} L ≥ 400 changes to L _{±0.1}	Ordering Code LA10-G3 Ordering Code LB10-J3-Y10-X3 1 mm Inc. G·J·X ≤ 50. <table border="1"> <tr><th>D</th><th>H</th></tr> <tr><td>6~17</td><td>1</td></tr> <tr><td>18~40</td><td>2</td></tr> <tr><td>50</td><td>3</td></tr> </table>	D	H	6~17	1	18~40	2	50	3	Ordering Code KB50-S10 Ordering Code KC50-C8-K40-T10 1 mm Inc. S·T·C ≤ 100. If 3 keyways are required, use both KB() and KC(). Not applicable to D=4-5. For keyway details, please refer to the product introduction.	Ordering Code KD10 1 mm Inc. Only applicable to D=6~12. <table border="1"> <tr><th>D</th><th>d</th><th>V₂</th></tr> <tr><td>6</td><td>5</td><td>4</td></tr> <tr><td>8</td><td>7</td><td>4</td></tr> <tr><td>10</td><td>8</td><td>4</td></tr> <tr><td>12</td><td>10</td><td>5</td></tr> </table>	D	d	V ₂	6	5	4	8	7	4	10	8	4	12	10	5
D	H																										
6~17	1																										
18~40	2																										
50	3																										
D	d	V ₂																									
6	5	4																									
8	7	4																									
10	8	4																									
12	10	5																									

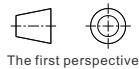
Rotary Shafts

One End Tapped, with Wrench Flats Straight

Code	Type		D Tolerance	Material		Surface Treatment
				GB	Equiv.	
MAG12	One End Tapped	with Wrench Flats	g6	45	S45C	Electroless Nickel Plating
MAG21				0Cr18Ni9	SUS304	—
MAG52			h7	45	S45C	Electroless Nickel Plating
MAG61				0Cr18Ni9	SUS304	—
MAG82				h9	45	S45C
MAG91	0Cr18Ni9	SUS304	—			



D	g6	h7	h9
4~6	-0.004 -0.012	0 -0.012	0 -0.030
8~10	-0.005 -0.014	0 -0.015	0 -0.036
12~18	-0.006 -0.017	0 -0.018	0 -0.043
20~30	-0.007 -0.020	0 -0.021	0 -0.052
35~50	-0.009 -0.025	0 -0.025	0 -0.062



Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.

The first perspective

g6

Part Number	0.1 mm Inc.	M	Wrench Flats	W	V
Code	D _{g6}	L	K(1 mm Inc.)		
MAG12	4	12.0~200.0	2	—	—
MAG21	5	12.0~250.0	2.6 3	—	—
	6	18.0~300.0	4	—	5
	8	18.0~400.0	4 5 6	—	7 10
	10	18.0~500.0	4 5 6	—	8
	12	25.0~600.0	5 6 8	—	10
	13	25.0~600.0	5 6 8	—	11
	15	25.0~700.0	5 6 8 10	—	13
	16	25.0~800.0	5 6 8 10	—	14
	17	35.0~800.0	5 6 8 10 12	—	12
	18	35.0~800.0	5 6 8 10 12	—	15
	20	45.0~800.0	5 6 8 10 12 16	—	17
	22	45.0~800.0	5 6 8 10 12 16	—	19
	25	55.0~800.0	8 10 12 16 20	—	22
	30	65.0~800.0	8 10 12 16 20 24	—	27
	35	75.0~800.0	12 16 20 24 30	—	30
	40	85.0~800.0	16 20 24 30	—	36
	50	95.0~800.0	16 20 24 30	—	41



Part Number	D	L	M	K(1 mm Inc.)
MAG12	12	25.0~600.0	5 6 8	K=0 or K<
MAG21	13	25.0~600.0	5 6 8	K=0 or K<

MAG12—D12—L30—M6—K10

Optional Processing

Part Number	D	L	M	K(1 mm Inc.)	Optional Processing Code
MAG12	12	25.0~600.0	5 6 8	K=0 or K<	LA()...
MAG21	13	25.0~600.0	5 6 8	K=0 or K<	LA()...

MAG12—D12—L30—M6—K10—LC



Per	1~4	5~
Price	100%	Additional quotation



Delivery 8



Delivery 10

No Surface Treatment

with Surface Treatment

h7

Part Number	0.1 mm Inc.	M	Wrench Flats	W	V
Code	D _{h7}	L	K(1 mm Inc.)		
MAG52	4	12.0~200.0	2	—	—
MAG61	5	12.0~250.0	2.6 3	—	—
	6	18.0~300.0	3 4	—	5
	8	18.0~400.0	3 4 5 6	—	7 10
	10	18.0~500.0	4 5 6	—	8
	12	25.0~600.0	5 6 8	—	10
	15	25.0~700.0	5 6 8 10	—	13
	20	35.0~800.0	5 6 8 10 12 16	—	17
	25	45.0~800.0	5 6 8 10 12 16	—	22
	30	55.0~800.0	8 10 12 16 20	—	27
	35	65.0~800.0	8 10 12 16 20 24	—	30
	40	75.0~800.0	16 20 24 30	—	36
	50	95.0~800.0	16 20 24 30	—	41

h9

Part Number	0.1 mm Inc.	M	Wrench Flats	W	V
Code	D _{h9}	L	K(1 mm Inc.)		
MAG82	4	12.0~200.0	2	—	—
MAG91	5	12.0~250.0	2.6 3	—	—
	6	18.0~300.0	3 4	—	5
	8	18.0~400.0	3 4 5 6	—	7 10
	10	18.0~500.0	4 5 6	—	8
	12	25.0~600.0	5 6 8	—	10
	15	25.0~700.0	5 6 8 10	—	13
	20	35.0~800.0	5 6 8 10 12 16	—	17
	25	45.0~800.0	5 6 8 10 12 16	—	22
	30	55.0~800.0	8 10 12 16 20	—	27
	35	65.0~800.0	8 10 12 16 20 24	—	30



Optional Processing

	Changes L Dimension Tolerance	Set Screw Flat	Add Keyway	Adds a Slit Cam Groove																							
		Adds 1 Set Screw Flat. LA() Adds 2 Set Screw Flats. LB() 	Adds 1 Keyway. KB() Adds 2 Keyways. KC() 																								
Code	LC	LA()-LB()	KB()-KC()	KD()																							
Spec.	[Ordering Code] LC L < 400 changes to L±0.05 L ≥ 400 changes to L±0.1	[Ordering Code] LA10-G3 [Ordering Code] LB10-J3-Y10-X3 1 mm Inc. DG·J·X ≤ 50. <table border="1"> <thead> <tr><th>D</th><th>H</th></tr> </thead> <tbody> <tr><td>6~17</td><td>1</td></tr> <tr><td>18~40</td><td>2</td></tr> <tr><td>50</td><td>3</td></tr> </tbody> </table>	D	H	6~17	1	18~40	2	50	3	[Ordering Code] KB50-S10 [Ordering Code] KC50-C8-F40-T10 1 mm Inc. ST·C ≤ 100. If 3 keyways are required, use both KB() and KC(). Not applicable to D=4-5. For keyway details, please refer to the product introduction.	[Ordering Code] KD10 1 mm Inc. Only applicable to D=6~12. <table border="1"> <thead> <tr><th>D</th><th>d</th><th>V₂</th></tr> </thead> <tbody> <tr><td>6</td><td>5</td><td>4</td></tr> <tr><td>8</td><td>7</td><td>4</td></tr> <tr><td>10</td><td>8</td><td>5</td></tr> <tr><td>12</td><td>10</td><td>5</td></tr> </tbody> </table>	D	d	V ₂	6	5	4	8	7	4	10	8	5	12	10	5
D	H																										
6~17	1																										
18~40	2																										
50	3																										
D	d	V ₂																									
6	5	4																									
8	7	4																									
10	8	5																									
12	10	5																									

One End Tapped, with Keyways

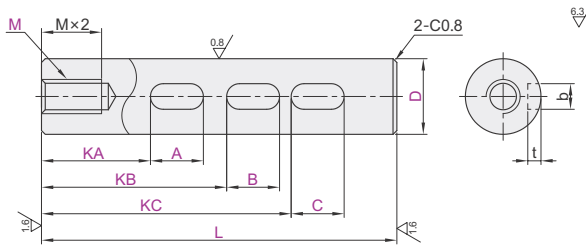
Straight

Rotary Shafts

Code	Type	D Tolerance	Material		Surface Treatment
			GB	Equiv.	
MAH02	One End Tapped with Keyway	g6	45	S45C	Electroless Nickel Plating
MAH11			0Cr18Ni9	SUS304	—
MAH32			45	S45C	Electroless Nickel Plating
MAH41		h7	0Cr18Ni9	SUS304	—
MAH62			45	S45C	Electroless Nickel Plating



self made



- ① Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.
- ② For keyway details, please refer to the rotary shafts product introduction.

g6

Part Number		L 0.1 mm Inc.	M Selection	Keyway①	Keyway②	Keyway③
Code	D _{g6}			KA-A	KB-B	KC-C
1 mm Inc.						
MAH02 MAH11	6	18.0~300.0	3 4	KA≥0 bsAs120	KB≥KA+A bsBs120	KC≥KB+B bsCs120
	8	18.0~400.0	3 4 5 6			
	10	18.0~500.0	4 5 6			
	12	25.0~600.0	5 6 8			
	13	25.0~600.0	5 6 8			
	15	25.0~700.0	5 6 8			
	16	25.0~800.0	5 6 8 10			
	17	35.0~800.0	5 6 8 10 12			
	20	35.0~800.0	5 6 8 10 12 16			
	22	45.0~800.0	5 6 8 10 12 16			
	25	45.0~800.0	5 6 8 10 12 16			
	30	55.0~800.0	8 10 12 16			
35	65.0~800.0	8 10 12 16 20				
40	75.0~800.0	12 16 20 24				
50	95.0~800.0	16 20 24 30				



Code	Spec.
------	-------

LC

Changes L Dimension Tolerance

Ordering Code LC

① L<400 changes to L±0.05
L≥400 changes to L±0.1

LA() LB()

Adds 1 Set Screw Flat. LA()

Ordering Code LA10-G3

LA(): Adds 1 set screw flat

Adds 2 Set Screw Flats. LB()

Ordering Code LB10-J3-Y10-X3

LB(): Adds 2 set screw flats

① 1 mm Inc.

② G·J·X ≤50.

D	H
6~17	1
18~40	2
50	3

KD()

Adds a Slit Cam Groove

Ordering Code KD10

① 1 mm Inc.

② Only applicable to D=6-12.

D	d	V ₂
6	5	4
8	7	4
12	10	5

KE()

Adds a Wrench Flat

Ordering Code KE10

① 1 mm Inc.

D	W	V ₁
6	5	10
8	7	10
10	8	10
12-13	10	10
15-16	13	10
17-18	14	12
20-22	17	12
25	22	16
30	27	16
35	30	16
40	36	20
50	41	20

MA() MB()

Adds a Retaining Ring Groove. (Applicable retaining Rings are Included.)

Ordering Code MA10—MB10

① 1 mm Inc.

② For retaining ring groove details, please refer to the product introduction.

③ MA(MB)=4~L/2

h7

Part Number		L 0.1 mm Inc.	M Selection	Keyway①	Keyway②	Keyway③
Code	D _{h7}			KA-A	KB-B	KC-C
1 mm Inc.						
MAH32 MAH41	6	18.0~300.0	3 4	KA≥0 bsAs120	KB≥KA+A bsBs120	KC≥KB+B bsCs120
	8	18.0~400.0	3 4 5 6			
	10	18.0~500.0	4 5 6			
	12	25.0~600.0	5 6 8			
	15	25.0~700.0	5 6 8			
	20	35.0~800.0	5 6 8 10			
	25	45.0~800.0	5 6 8 10 12			
	30	55.0~800.0	8 10 12 16			
	35	65.0~800.0	8 10 12 16 20			
	40	75.0~800.0	12 16 20 24			
	50	95.0~800.0	16 20 24 30			

h9

Part Number		L 0.1 mm Inc.	M Selection	Keyway①	Keyway②	Keyway③
Code	D _{h9}			KA-A	KB-B	KC-C
1 mm Inc.						
MAH62	6	18.0~300.0	3 4	KA≥0 bsAs120	KB≥KA+A bsBs120	KC≥KB+B bsCs120
	8	18.0~400.0	3 4 5 6			
	10	18.0~500.0	4 5 6			
	12	25.0~600.0	5 6 8			
	15	25.0~700.0	5 6 8			
	20	35.0~800.0	5 6 8 10			
	25	45.0~800.0	5 6 8 10 12			
	30	55.0~800.0	8 10 12 16			
	35	65.0~800.0	8 10 12 16 20			
	40	75.0~800.0	12 16 20 24			
	50	95.0~800.0	16 20 24 30			



Part Number	D	L	M Selection	KA-A	KB-B	KC-C
MAH02	6	18~300	3 4	KA≥0	KB≥0	KC≥0
	8	18~400	3 4 5 6	bsAs120	bsBs120	bsCs120

MAH02—D8—L350—M4—KA10—A10—KB90—B30—KC210—C30

Optional Processing

Part Number	D	L	M Selection	KA-A	KB-B	KC-C	Optional Processing Code
MAH02	6	18~300	3 4	KA≥0	KB≥0	KC≥0	Optional Processing Code
	8	18~400	3 4 5 6	bsAs120	bsBs120	bsCs120	④ KD() KE()...



Discount price	Per	1~4	5~
Price	100%	Additional quotation	



Delivery
8



Delivery
10

① No Surface Treatment

② with Surface Treatment

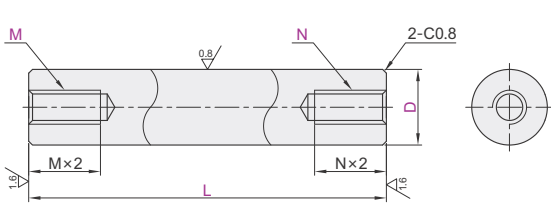
Rotary Shafts

Both Ends Tapped, Standard Straight

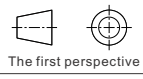
Code	Type	D Tolerance	Material		Surface Treatment	
			GB	Equiv.		
MAI02	Both Ends Tapped	Standard	g6	45	S45C	Electroless Nickel Plating
MAI16				0Cr18Ni9	SUS304	—
MAI22				35CrMo	Hardness 28-33 HRC	Electroless Nickel Plating
MAI42			h7	45	S45C	Electroless Nickel Plating
MAI46				0Cr18Ni9	SUS304	—
MAI62				45	S45C	Electroless Nickel Plating
MAI66			h9	0Cr18Ni9	SUS304	—



Self made



D	g6	h7	h9
4~6	-0.004 -0.012	0 -0.012	0 -0.030
8-10	-0.005 -0.014	0 -0.015	0 -0.036
12~18	-0.006 -0.017	0 -0.018	0 -0.043
20~30	-0.007 -0.020	0 -0.021	0 -0.052
35~50	-0.009 -0.025	0 -0.025	0 -0.062



Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.

The first perspective

g6

Part Number	Code	D _{g6}	0.1 mm Inc. L	M-N
MAI02	4	4	12.0~200.0	2
MAI16	5	5	12.0~250.0	2.6 3
MAI22	6	6	18.0~300.0	4
MAI42	8	8	18.0~400.0	4 5 6
MAI46	10	10	18.0~500.0	4 5 6
MAI62	12	12	25.0~600.0	5 6 8
MAI66	13	13	25.0~600.0	5 6 8
MAI02	15	15	25.0~700.0	5 6 8 10
MAI16	16	16	25.0~800.0	5 6 8 10
MAI22	17	17	35.0~800.0	5 6 8 10 12
MAI42	18	18	35.0~800.0	5 6 8 10 12
MAI46	20	20	35.0~800.0	5 6 8 10 12 16
MAI62	22	22	45.0~800.0	5 6 8 10 12 16
MAI66	25	25	45.0~800.0	5 6 8 10 12 16
MAI02	30	30	55.0~800.0	8 10 12 16 20
MAI16	35	35	65.0~800.0	8 10 12 16 20 24
MAI22	40	40	75.0~800.0	12 16 20 24 30
MAI42	50	50	95.0~800.0	16 20 24 30



Part Number	Code	D	L	M-N
MAI02	4	4	25.0-600.0	5 6 8
MAI16	5	5	25.0-600.0	5 6 8

MAI02-D12-L30-M6-N6

Optional Processing

Part Number	Code	D	L	M-N	Optional Processing Code
MAI02	4	4	25.0-600.0	5 6 8	LA()...

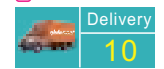
MAI02-D12-L30-M6-N6-LC



Discount price	Per	1~4	5~
Price	100%	Additional quotation	



No Surface Treatment



with surface treatment

h7

Part Number	Code	D _{h7}	0.1 mm Inc. L	M-N
MAI42	4	4	12.0~200.0	2
MAI46	5	5	12.0~250.0	2.6 3
MAI42	6	6	18.0~300.0	3 4
MAI46	8	8	18.0~400.0	3 4 5 6
MAI42	10	10	18.0~500.0	4 5 6
MAI46	12	12	25.0~600.0	5 6 8
MAI42	15	15	25.0~700.0	5 6 8 10
MAI46	20	20	35.0~800.0	5 6 8 10 12 16
MAI42	25	25	45.0~800.0	5 6 8 10 12 16
MAI46	30	30	55.0~800.0	8 10 12 16 20
MAI42	35	35	65.0~800.0	8 10 12 16 20 24
MAI46	40	40	75.0~800.0	12 16 20 24 30
MAI42	50	50	95.0~800.0	16 20 24 30

h9

Part Number	Code	D _{h9}	0.1 mm Inc. L	M-N
MAI62	4	4	12.0~200.0	2
MAI66	5	5	12.0~250.0	2.6 3
MAI62	6	6	18.0~300.0	3 4
MAI66	8	8	18.0~400.0	3 4 5 6
MAI62	10	10	18.0~500.0	4 5 6
MAI66	12	12	25.0~600.0	5 6 8
MAI62	15	15	25.0~700.0	5 6 8 10
MAI66	20	20	35.0~800.0	5 6 8 10 12 16
MAI62	25	25	45.0~800.0	5 6 8 10 12 16
MAI66	30	30	55.0~800.0	8 10 12 16 20
MAI62	35	35	65.0~800.0	8 10 12 16 20 24
MAI66	40	40	75.0~800.0	12 16 20 24 30
MAI62	50	50	95.0~800.0	16 20 24 30



Optional Processing

Optional Processing	Changes L Dimension Tolerance	Set Screw Flat	Add Keyway	Adds a Slit Cam Groove
Optional Processing		Adds 1 Set Screw Flat. LA() Adds 2 Set Screw Flats. LB() 	Adds 1 Keyway. KB() Adds 2 Keyways. KC() 	

Code	LC	LA(-)LB(-)	KB(-)KC(-)	KD(-)																							
Spec.	Ordering Code LC L < 400 changes to L±0.05 L ≥ 400 changes to L±0.1	Ordering Code LA10-G3 Ordering Code LB10-J3-Y10-X3 1 mm Inc. G·J·X ≤ 50. <table border="1"> <tr><th>D</th><th>H</th></tr> <tr><td>6~17</td><td>1</td></tr> <tr><td>18~40</td><td>2</td></tr> <tr><td>50</td><td>3</td></tr> </table>	D	H	6~17	1	18~40	2	50	3	Ordering Code KB50-S10 Ordering Code KC50-C8-K40-T10 1 mm Inc. S·T·C ≤ 100. If 3 keyways are required, use both KB() and KC(). Not applicable to D=4~5. For keyway details, please refer to the product introduction.	Ordering Code KD10 1 mm Inc. Only applicable to D=6~12. <table border="1"> <tr><th>D</th><th>d</th><th>V₂</th></tr> <tr><td>6</td><td>5</td><td></td></tr> <tr><td>8</td><td>7</td><td>4</td></tr> <tr><td>10</td><td>8</td><td></td></tr> <tr><td>12</td><td>10</td><td>5</td></tr> </table>	D	d	V ₂	6	5		8	7	4	10	8		12	10	5
D	H																										
6~17	1																										
18~40	2																										
50	3																										
D	d	V ₂																									
6	5																										
8	7	4																									
10	8																										
12	10	5																									

Rotary Shafts A4

Both Ends Tapped, with Wrench Flats

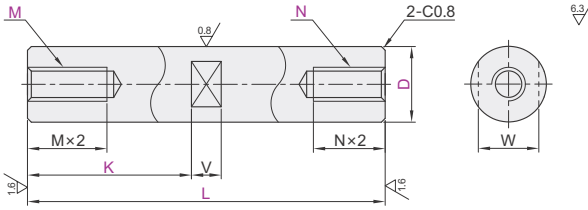
Straight

Rotary Shafts

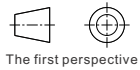
Code	Type	D Tolerance	Material		Surface Treatment
			GB	Equiv.	
MAI12	Both Ends Tapped with Wrench Flats	g6	45	S45C	Electroless Nickel Plating
MAI26			0Cr18Ni9	SUS304	—
MAI52		h7	45	S45C	Electroless Nickel Plating
MAI56			0Cr18Ni9	SUS304	—
MAI72		h9	45	S45C	Electroless Nickel Plating
MAI76			0Cr18Ni9	SUS304	—



Self made



D	g6	h7	h9
4~6	-0.004 -0.012	0 -0.012	0 -0.030
8~10	-0.005 -0.014	0 -0.015	0 -0.036
12~18	-0.006 -0.017	0 -0.018	0 -0.043
20~30	-0.007 -0.020	0 -0.021	0 -0.052
35~50	-0.009 -0.025	0 -0.025	0 -0.062



Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.

The first perspective

g6

Part Number	0.1 mm Inc.	M-N	Wrench Flats	W	V
Code	D _{g6}	L	K (mm Inc.)		
MAI12	4	12.0~200.0	2	—	—
	5	12.0~250.0	2.6 3	—	—
	6	18.0~300.0	4	—	5
	8	18.0~400.0	4 5 6	—	7 10
	10	18.0~500.0	4 5 6	—	8
	12	25.0~600.0	5 6 8	—	10
	13	25.0~600.0	5 6 8	—	11
	15	25.0~700.0	5 6 8 10	—	13
	16	25.0~800.0	5 6 8 10	—	14
	17	—	5 6 8 10 12	K=0	12
	18	35.0~800.0	5 6 8 10 12	or	15
	20	—	5 6 8 10 12 16	K≥1	17
	22	—	5 6 8 10 12 16	—	19
	25	45.0~800.0	5 6 8 10 12 16	—	22
	30	55.0~800.0	8 10 12 16 20	—	27
	35	65.0~800.0	8 10 12 16 20 24	—	30
	40	75.0~800.0	12 16 20 24 30	—	36
	50	95.0~800.0	16 20 24 30	—	41



Part Number	D	L	M-N	K
MAI12	12	25.0~600.0	5 6 8	K=0 or K≥1

MAI12—D12—L30—M6—N6—K10

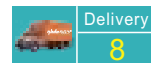
Optional Processing

Part Number	D	L	M-N	K	Optional Processing code
MAI12	12	25.0~600.0	5 6 8	K=0 or K≥1	LA()...

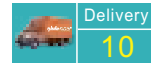
MAI12—D12—L30—M6—N6—K10—LC



Per	1~4	5~
Price	100%	Additional quotation



No Surface Treatment



with Surface Treatment

h7

Part Number	0.1 mm Inc.	M-N	Wrench Flats	W	V
Code	D _{h7}	L	K (1 mm Inc.)		
MAI52	4	12.0~200.0	2	—	—
	5	12.0~250.0	2.6 3	—	—
	6	18.0~300.0	3 4	—	5
	8	18.0~400.0	3 4 5 6	—	7 10
	10	18.0~500.0	4 5 6	—	8
	12	25.0~600.0	5 6 8	—	10
	15	25.0~700.0	5 6 8 10	—	13
	20	35.0~800.0	5 6 8 10 12 16	K=0	12
	25	45.0~800.0	5 6 8 10 12 16	or	17
	30	55.0~800.0	8 10 12 16 20	K≥1	22
	35	65.0~800.0	8 10 12 16 20 24	—	27
	40	75.0~800.0	12 16 20 24 30	—	30
	50	95.0~800.0	16 20 24 30	—	36

h9

Part Number	0.1 mm Inc.	M-N	Wrench Flats	W	V
Code	D _{h9}	L	K (1 mm Inc.)		
MAI72	4	12.0~200.0	2	—	—
	5	12.0~250.0	2.6 3	—	—
	6	18.0~300.0	3 4	—	5
	8	18.0~400.0	3 4 5 6	—	7 10
	10	18.0~500.0	4 5 6	—	8
	12	25.0~600.0	5 6 8	—	10
	15	25.0~700.0	5 6 8 10	—	13
	20	35.0~800.0	5 6 8 10 12 16	K=0	12
	25	45.0~800.0	5 6 8 10 12 16	or	17
	30	55.0~800.0	8 10 12 16 20	K≥1	22
	35	65.0~800.0	8 10 12 16 20 24	—	27
	40	75.0~800.0	12 16 20 24 30	—	30
	50	95.0~800.0	16 20 24 30	—	36



Optional Processing

	Changes L Dimension Tolerance	Set Screw Flat	Add Keyway	Adds a Slit Cam Groove																							
Optional Processing		Adds 1 Set Screw Flat. LA() Adds 2 Set Screw Flats. LB() 	Adds 1 Keyway. KB() Adds 2 Keyways. KC() 																								
Code	LC	LA()-LB()	KB()-KC()	KD()																							
Spec.	Ordering Code LC L < 400 changes to L±0.05 L ≥ 400 changes to L±0.1	Ordering Code LA10-G3 Ordering Code LB10-J3-Y10-X3 1 mm Inc. DG·J·X ≤ 50. <table border="1"> <tr><td>D</td><td>H</td></tr> <tr><td>6~17</td><td>1</td></tr> <tr><td>18~40</td><td>2</td></tr> <tr><td>50</td><td>3</td></tr> </table>	D	H	6~17	1	18~40	2	50	3	Ordering Code KB50-S10 Ordering Code KC50-C8-K40-T10 1 mm Inc. S·T·C ≤ 100. If 3 keyways are required, use both KB() and KC(). Not applicable to D=4-5. For keyway details, please refer to the product introduction.	Ordering Code KD10 1 mm Inc. Only applicable to D=6-12. <table border="1"> <tr><td>D</td><td>d</td><td>V₂</td></tr> <tr><td>6</td><td>5</td><td>—</td></tr> <tr><td>8</td><td>7</td><td>4</td></tr> <tr><td>10</td><td>8</td><td>—</td></tr> <tr><td>12</td><td>10</td><td>5</td></tr> </table>	D	d	V ₂	6	5	—	8	7	4	10	8	—	12	10	5
D	H																										
6~17	1																										
18~40	2																										
50	3																										
D	d	V ₂																									
6	5	—																									
8	7	4																									
10	8	—																									
12	10	5																									

Rotary Shafts A4

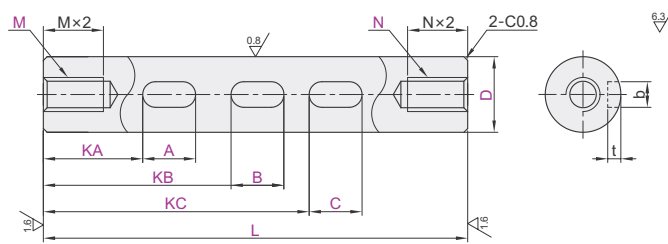
Rotary Shafts

Both Ends Tapped, with Keyways Straight

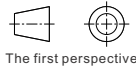
Code	Type		D Tolerance	Material		Surface Treatment
				GB	Equiv.	
MAN02	Both Ends Tapped	with Keyway	g6	45	S45C	Electroless Nickel Plating
MAN11				0Cr18Ni9	SUS304	—
MAN32			h7	45	S45C	Electroless Nickel Plating
MAN41				0Cr18Ni9	SUS304	—
MAN62			h9	45	S45C	Electroless Nickel Plating



self made



① Circularity, straightness, perpendicularity and concentricity, please refer to the introduction of shaft products.
② For keyway details, please refer to the rotary shafts product introduction.



g6

Code	Part Number		L 0.1 mm Inc.	M-N Selection	Keyway① KA-A	Keyway② KB-B	Keyway③ KC-C
	D _{g6}						
MAN02	6	18.0-300.0	3 4	KA≥0 bsA≤120	KB≥KA+A bsB≤120	KC≥KB+B bsC≤120	
	8	18.0-400.0	3 4 5 6				
	10	18.0-500.0	4 5 6				
	12	25.0-600.0	5 6 8				
	13	25.0-600.0	5 6 8				
	15	25.0-700.0	5 6 8				
	16	25.0-800.0	5 6 8 10				
	17	35.0-800.0	5 6 8 10 12				
	18	35.0-800.0	5 6 8 10 12				
	20	35.0-800.0	5 6 8 10 12 16				
MAN11	22	45.0-800.0	5 6 8 10 12 16	bsA≤120	bsB≤120	bsC≤120	
	25	45.0-800.0	5 6 8 10 12 16				
	30	55.0-800.0	8 10 12 16				
	35	65.0-800.0	8 10 12 16 20				
	40	75.0-800.0	12 16 20 24				
	50	95.0-800.0	16 20 24 30				



Code	Spec.
LC	Changes L Dimension Tolerance [Ordering Code] LC ① L<400 changes to L±0.05 L≥400 changes to L±0.1
LA() LB()	Adds 1 Set Screw Flat. LA() [Ordering Code] LA10-G3 Adds 2 Set Screw Flats. LB() [Ordering Code] LB10-J3-Y10-X3 ① 1 mm Inc. ② G·J·X ≤50.
KD()	Adds a Slit Cam Groove [Ordering Code] KD10 ① 1 mm Inc. ② Only applicable to D=6-12.
KE()	Adds a Wrench Flat [Ordering Code] KE10 ① 1 mm Inc.

h7

Code	Part Number		L 0.1 mm Inc.	M-N Selection	Keyway① KA-A	Keyway② KB-B	Keyway③ KC-C
	D _{h7}						
MAN32	6	18.0-300.0	3 4	KA≥0 bsA≤120	KB≥KA+A bsB≤120	KC≥KB+B bsC≤120	
	8	18.0-400.0	3 4 5 6				
	10	18.0-500.0	4 5 6				
	12	25.0-600.0	5 6 8				
	15	25.0-700.0	5 6 8				
	20	35.0-800.0	5 6 8 10				
	25	45.0-800.0	5 6 8 10 12				
	30	55.0-800.0	8 10 12 16				
	35	65.0-800.0	8 10 12 16 20				
	40	75.0-800.0	12 16 20 24				
MAN41	50	95.0-800.0	16 20 24 30				

h9

Code	Part Number		L 0.1 mm Inc.	M-N Selection	Keyway① KA-A	Keyway② KB-B	Keyway③ KC-C
	D _{h9}						
MAN62	6	18.0-300.0	3 4	KA≥0 bsA≤120	KB≥KA+A bsB≤120	KC≥KB+B bsC≤120	
	8	18.0-400.0	3 4 5 6				
	10	18.0-500.0	4 5 6				
	12	25.0-600.0	5 6 8				
	15	25.0-700.0	5 6 8				
	20	35.0-800.0	5 6 8 10				
	25	45.0-800.0	5 6 8 10 12				
	30	55.0-800.0	8 10 12 16				
	35	65.0-800.0	8 10 12 16 20				



Part Number	L	M-N Selection	KA-A	KB-B	KC-C	
MAN02	6	18-300	3 4	KA≥0 bsA≤120	KB≥0 bsB≤120	KC≥0 bsC≤120
MAN02	8	18-400	3 4 5 6	KA≥0 bsA≤120	KB≥0 bsB≤120	KC≥0 bsC≤120

MAN02—D8—L350—M4—N4—KA10—A10—KB90—B30—KC210—C30

Discount price	Per	1~4	5~
Price	100%	Additional quotation	

Delivery 8
① No Surface Treatment

Optional Processing

Code	D	L	M-N Selection	KA-A	KB-B	KC-C	Optional Processing Code
MAN02	6	18-300	3 4	KA≥0 bsA≤120	KB≥0 bsB≤120	KC≥0 bsC≤120	① KD() KE()...

Delivery 10
① With Surface Treatment

MAN02—D8—L350—M4—N4—KA10—A10—KB90—B30—KC210—C30—LC

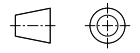
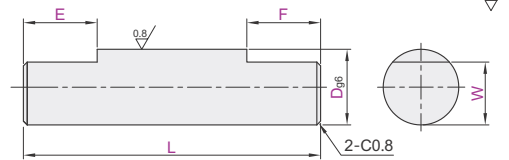
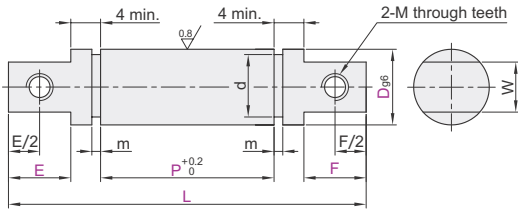
Rotary Shafts A4

Shafts for Tension Pull, Retaining Ring Groove	Rotary Shafts D-Cut	Material		Surface Treatment	Shafts for Tension	
		GB	Equip.		Accessories	Accessories Material
MAJ02	MAK02	45	S45C	Electroless Nickel Plating	Retaining Ring 2 pcs	SUS304
MAJ11	MAK11	0Cr18Ni9	SUS304	—		



Shafts for Tension
(Pull, Retaining Ring Groove)
MAJ02/11

Rotary Shafts
(D-Cut)
MAK02/11



① Circularity, straightness, perpendicularity and concentricity, please refer to the introduction of shaft products.

Shafts for Tension(Pull, Retaining Ring Groove)

Part Number		1 mm Inc.				M	W	d	m
Code	Dg6	L	E-F	P					
MAJ02	8	18~400	8~30	2~370	3	7	7	+0.09 0	+0.1 0
	10	25~500	10~30	4~470	4	8	9.6	0.09	
	12	25~500			4 5	9	11.5		
MAJ11	15	25~600			4 5 6	12	14.3	0.11	1.15
	17	35~600			5 6 8	13	16.2		
	20	35~600	15~50	8~550	6 8 10	16	19		+0.14 0
	25	45~600			8 10 12	20	23.9	0.21	1.35
	30	55~600				25	28.6		1.65



Code	Spec.
LC	Changes L Dimension Tolerance Ordering Code LC ① L<400 changes to L±0.05 L≥400 changes to L±0.1

Rotary Shafts(D-Cut)

Part Number		0.1 mm Inc.		W
Code	Dg6	L	E-F	
MAK02	6	18.0~300.0		4~5
	8	18.0~400.0	2.0~30.0	5~7
	10	18.0~500.0		7~9
	12			9~11
	13	25.0~600.0		10~12
	15	25.0~700.0	2.0~54.0	12~14
	16			13~15
	17			14~16
	18	35.0~800.0		15~17
	20			15~18
MAK11	22		2.0~90.0	17~20
	25	45.0~800.0		20~23
	30	55.0~800.0		25~28

LA()	Set Screw Flat Adds 1 Set Screw Flat. LA() Ordering Code LA10-G3 Ordering Code LB10-J3-Y10-X3 ① 1 mm Inc. ② G-J-X ≤50.
LB()	Adds 2 Set Screw Flats. LB() Ordering Code KE10 ① 1 mm Inc.

KE()	Adds a Wrench Flat Ordering Code KE10 ① 1 mm Inc.
------	---

MA()	Adds a Retaining Ring Groove Ordering Code MA10-MB10 ① 1 mm Inc. ② MA(MB)=4-L/2 ③ For retaining ring groove details, please refer to the product introduction. ④ Not applicable to Shafts for Tension.
MD	Cancel Retaining Ring Groove Ordering Code MD ① Cancel retaining ring groove. ② Only for Shafts for Tension.



Shafts for Tension

Part Number	L	E-F	P	M	
MAJ02	8	18-400	7-30	3-370	3
MAJ11	10	25-500	10-30	5-470	4

MAJ02—D10—L200—E30—F30—P100—M4

Rotary Shafts

Part Number	L	E-F	W
MAK02	6	18-300	4-5
MAK11	8	18-400	5-7

MAK02—D8—L50—E8—F8—W5

Optional Processing (Shafts for Tension)

Part Number	L	E-F	P	M	Optional Processing Code	
MAJ02	8	18-400	7-30	3-370	3	LA()
MAJ11	10	25-500	10-30	5-470	4	LA()

MAJ02—D10—L200—E30—F30—P100—M4—LC

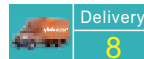
Optional Processing (Rotary Shafts)

Part Number	L	E-F	W	Optional Processing Code
MAK02	6	18-300	4-5	LA()
MAK11	8	18-400	5-7	LA()

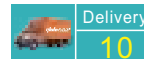
MAK02—D8—L50—E8—F8—W5—LC



Per	1~4	5~
Price	100%	Additional quotation



① No Surface Treatment

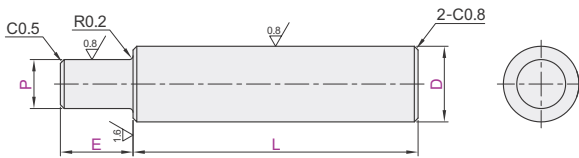


② with Surface Treatment

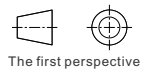
Rotary Shafts

Standard One End Stepped

Code	Type	Tolerance		Material		Surface Treatment
		D	P	GB	Equiv.	
MBC02	Standard	g6	g6	45	S45C	Electroless Nickel Plating
MBC11				0Cr18Ni9	SUS304	—
MBC32		h7	h7	45	S45C	Electroless Nickel Plating
MBC41				0Cr18Ni9	SUS304	—
MBC61		h9	g6	0Cr18Ni9	SUS304	—
MBC72				45	S45C	Electroless Nickel Plating
MBC81				0Cr18Ni9	SUS304	—



D-P	g6	h7	h9
3	-0.002 -0.018	0 -0.010	0 -0.025
3.1~6	-0.004 -0.012	0 -0.012	0 -0.030
6.1~10	-0.005 -0.014	0 -0.015	0 -0.036
10.1~18	-0.006 -0.017	0 -0.018	0 -0.043
18.1~30	-0.007 -0.020	0 -0.021	0 -0.052
30.1~50	-0.009 -0.025	0 -0.025	0 -0.062



□ Circularity, straightness, perpendicularity and concentricity, please refer to the introduction of shaft products.

□ g6

Part Number	0.1 mm Increment		1 mm Increment	
	D _{g6}	L	E	P
MBC02	6	18.0~300.0		2 3 4 5
MBC11	8	18.0~400.0		3 ≤ P < D
	10	18.0~500.0		
MBC02	12	20.0~600.0		4 ≤ P < D
	13	20.0~600.0		
MBC11	15	20.0~700.0	1 ≤ E ≤ P × 6	4 ≤ P < D
	16	20.0~800.0		
MBC02	17	25.0~800.0	1 ≤ E ≤ P × 6	8 ≤ P < D
	18	25.0~800.0		
MBC11	20	25.0~800.0	1 ≤ E ≤ P × 6	8 ≤ P < D
	22	25.0~800.0		
MBC02	25	35.0~800.0	1 ≤ E ≤ P × 6	15 ≤ P < D
	30	35.0~800.0		
MBC11	35	35.0~800.0	1 ≤ E ≤ P × 6	15 ≤ P < D
	40	35.0~800.0		
MBC02	50	35.0~800.0	1 ≤ E ≤ P × 6	15 ≤ P < D
	50	35.0~800.0		



Optional Processing

Code	Spec.
LC	Changes L Dimension Tolerance [Ordering Code] LC □ L < 400 changes to L ± 0.05 □ L ≥ 400 changes to L ± 0.1
LA() LB()	Adds 1 Set Screw Flat. LA() [Ordering Code] LA10-G3 [Ordering Code] LB10-J3-Y10-X3 □ 1mm Increment □ G·J·X ≤ 50.
KB() KC()	Adds 2 Set Screw Flats. LB() [Ordering Code] KB50-S10 [Ordering Code] KC50-C8-K40-T10 □ 1mm Increment □ S·T·C ≤ 100. □ If 3 keyways are required, use both KB() and KC(). □ For keyway details, please refer to the product introduction.
PA()	Adds 1 Keyway. KB() [Ordering Code] KB50-S10 [Ordering Code] KC50-C8-K40-T10 □ 1mm Increment □ S·T·C ≤ 100. □ If 3 keyways are required, use both KB() and KC(). □ For keyway details, please refer to the product introduction.
KD()	Adds 2 Keyways. KC() [Ordering Code] PA10 □ 1mm Increment □ PA ≥ 50, PA ≥ E, P ≤ 5 not applicable. □ For keyway details, please refer to the product introduction.
MA() MB()	Adds a Keyway on the Shaft end P [Ordering Code] KD10 □ 1mm Increment □ Only applicable to D=6-12.
KE()	Adds a Slit Cam Groove [Ordering Code] MA10—MB10 □ 1mm Increment □ MA(MB) = 4~L/2 □ For retaining ring groove details, please refer to the product introduction.
	Adds a Retaining Ring Groove. (Applicable retaining rings are included.) [Ordering Code] KE10 □ 1mm Increment

□ h7

Part Number	0.1 mm Increment		1 mm Increment	
	D _{h7}	L	E	P
MBC32	6	18.0~300.0		2 3 4 5
MBC41	8	18.0~400.0		3 ≤ P < D
	10	18.0~500.0		
MBC32	12	20.0~700.0	1 ≤ E ≤ P × 6	4 ≤ P < D
	15	20.0~700.0		
MBC41	20	25.0~800.0	1 ≤ E ≤ P × 6	8 ≤ P < D
	25	25.0~800.0		
MBC32	30	35.0~800.0	1 ≤ E ≤ P × 6	15 ≤ P < D
	35	35.0~800.0		
MBC41	40	35.0~800.0	1 ≤ E ≤ P × 6	15 ≤ P < D
	50	35.0~800.0		

□ h9

Part Number	0.1 mm Increment		1 mm Increment	
	D _{h9}	L	E	P
MBC61	6	18.0~300.0		2 3 4 5
MBC72	8	18.0~400.0		3 ≤ P < D
	10	18.0~500.0		
MBC81	12	20.0~600.0	1 ≤ E ≤ P × 6	4 ≤ P < D
	15	20.0~700.0		
MBC61	20	25.0~800.0	1 ≤ E ≤ P × 6	8 ≤ P < D
	25	25.0~800.0		
MBC72	30	35.0~800.0	1 ≤ E ≤ P × 6	15 ≤ P < D
	35	35.0~800.0		



Part Number	D	L	E	P
MBC02	12	20~300	1 ≤ E ≤ P × 6	4 ≤ P < D
MBC02	13	20~300	1 ≤ E ≤ P × 6	4 ≤ P < D
MBC02	15	20~700	1 ≤ E ≤ P × 6	4 ≤ P < D

MBC02—D12—L100—E15—P8

□ Optional Processing

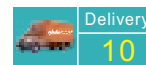
Part Number	D	L	E	P	Optional Processing Code
MBC02	12	20~300	1 ≤ E ≤ P × 6	4 ≤ P < D	□ LA() LB()...
MBC02	13	20~300	1 ≤ E ≤ P × 6	4 ≤ P < D	□ LA() LB()...
MBC02	15	20~700	1 ≤ E ≤ P × 6	4 ≤ P < D	□ LA() LB()...

MBC02—D12—L100—E15—P8—LC



Discount price

Per	1~4	5~
Price	100%	Additional quotation



□ No Surface Treatment

□ with Surface Treatment

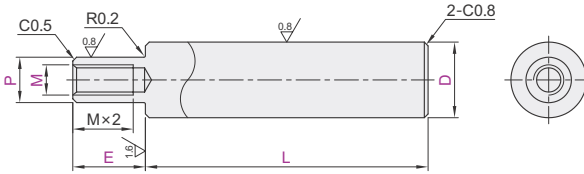
Rotary Shafts

Standard One End Stepped and Tapped

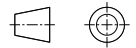
Code	Type	Tolerance		Material		Surface Treatment	
		D	P	GB	Equiv.		
MBJ02	One End Stepped and Tapped	Standard	g6	g6	45	S45C	Electroless Nickel Plating
MBJ16					0Cr18Ni9	SUS304	—
MBJ42					45	S45C	Electroless Nickel Plating
MBJ62			h7	h7	45	S45C	Electroless Nickel Plating
MBJ82					45	S45C	—
MBJ86					0Cr18Ni9	SUS304	—
MBJ86	h9	h7	g6	0Cr18Ni9	SUS304	—	
MBJ82				45	S45C	Electroless Nickel Plating	
MBJ86				0Cr18Ni9	SUS304	—	



self made



D-P	g6	h7	h9
3	-0.002 -0.008	0 -0.010	0 -0.025
3.1~6	-0.004 -0.012	0 -0.012	0 -0.030
6.1~10	-0.005 -0.014	0 -0.015	0 -0.036
10.1~18	-0.006 -0.017	0 -0.018	0 -0.043
18.1~30	-0.007 -0.020	0 -0.021	0 -0.052
30.1~50	-0.009 -0.025	0 -0.025	0 -0.062



Ⓜ Circularity, straightness, perpendicularity and concentricity, please refer to the introduction of shaft products.

The first perspective

Ⓜ g6

Part Number	0.1 mm Increment		1 mm Inc.		M
Code	D _{g6}	L	E	P	
MBJ02	6	18.0~300.0		5	3
	8	18.0~400.0			3 4 5
	10	18.0~500.0		When M3-M8	4 5 6
	12	20.0~600.0		M+2sP<D	5 6 8
	13				5 6 8
	15	20.0~700.0			5 6 8 10
	16			When M10-M16	5 6 8 10
	17		1sE≤P×6	M+2sP<D	5 6 8 10 12
	18				5 6 8 10 12
	20	25.0~800.0		When M20-24	5 6 8 10 12
MBJ16	22			M+2sP<D	5 6 8 10 12 16
	25				5 6 8 10 12 16
	30			When M30	8 10 12 16 20
	35			M+2sP<D	8 10 12 16 20 24
	40	35.0~800.0			12 16 20 24 30
	50				16 20 24 30



Optional Processing

Code	Spec.															
LC	Changes L Dimension Tolerance [Ordering Code] LC Ⓜ L<400 changes to L±0.05 L≥400 changes to L±0.1															
LA() LB()	Adds 1 Set Screw Flat. LA() [Ordering Code] LA10-G3 [Ordering Code] LB10-J3-Y10-X3 Ⓜ 1mm Increment Ⓜ G·J·X ≤50. Adds 2 Set Screw Flats. LB() <table border="1"> <thead> <tr> <th>D</th> <th>H</th> </tr> </thead> <tbody> <tr> <td>6~17</td> <td>1</td> </tr> <tr> <td>18~40</td> <td>2</td> </tr> <tr> <td>50</td> <td>3</td> </tr> </tbody> </table>	D	H	6~17	1	18~40	2	50	3							
D	H															
6~17	1															
18~40	2															
50	3															
KB() KC()	Adds 1 Keyway. KB() [Ordering Code] KB50-S10 [Ordering Code] KC50-C8-F40-T10 Ⓜ 1mm Increment Ⓜ S·T·C ≤100. Adds 2 Keyways. KC() Ⓜ If 3 keyways are required, use both KB() and KC(). Ⓜ For keyway details, please refer to the product introduction.															
KD()	Adds a Slit Cam Groove [Ordering Code] KD10 Ⓜ 1mm Increment <table border="1"> <thead> <tr> <th>D</th> <th>d</th> <th>V₂</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>5</td> <td>4</td> </tr> <tr> <td>8</td> <td>7</td> <td>4</td> </tr> <tr> <td>10</td> <td>8</td> <td>5</td> </tr> <tr> <td>12</td> <td>10</td> <td>5</td> </tr> </tbody> </table>	D	d	V ₂	6	5	4	8	7	4	10	8	5	12	10	5
D	d	V ₂														
6	5	4														
8	7	4														
10	8	5														
12	10	5														
MA() MB()	Adds a Retaining Ring Groove. (Applicable retaining rings are included.) [Ordering Code] MA10-MB10 Ⓜ 1mm Increment Ⓜ MA(MB)=4~L/2 Ⓜ For retaining ring groove details, please refer to the product introduction.															

Ⓜ h7

Part Number	0.1 mm Increment		1 mm Inc.		M
Code	D _{h7}	L	E	P	
MBJ42	6	18.0~300.0		5	3
	8	18.0~400.0			3 4 5
	10	18.0~500.0		When M3-M8	4 5 6
	12	20.0~600.0		M+2sP<D	5 6 8
	15	20.0~700.0		When M10-M16	5 6 8 10
	20		1sE≤P×6	M+2sP<D	5 6 8 10 12
	25	25.0~800.0		When M20-24	5 6 8 10 12 16
	30			M+2sP<D	8 10 12 16 20
	35				8 10 12 16 20 24
	40	35.0~800.0		When M30	12 16 20 24 30
50			M+2sP<D	16 20 24 30	

Ⓜ h9

Part Number	0.1 mm Increment		1 mm Inc.		M
Code	D _{h9}	L	E	P	
MBJ62	6	18.0~300.0		5	3
	8	18.0~400.0			3 4 5
	10	18.0~500.0		When M3-M8	4 5 6
	12	20.0~600.0		M+2sP<D	5 6 8
	15	20.0~700.0	1sE≤P×6	When M10-M16	5 6 8 10
	20			M+2sP<D	5 6 8 10 12
	25	25.0~800.0		When M20-24	5 6 8 10 12 16
	30				8 10 12 16 20
	35	35.0~800.0		M+2sP<D	8 10 12 16 20 24



Please order as shown

Part Number	D	L	E	P	M
MBJ02	8	18-490	1sE≤P×6	When M3-M8	4 5
MBJ02	10	18-500		M+2sP<D	4 5 6

MBJ02-D8-L150-E20-P5-M3



Discount price	Per	1~4	5~
Price	100%	Additional quotation	



Ⓜ No Surface Treatment



Ⓜ with Surface Treatment

Optional Processing

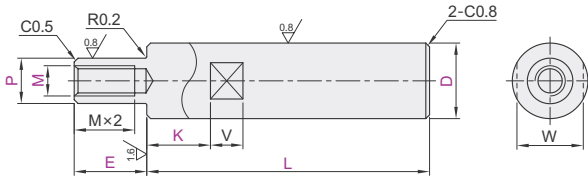
Part Number	D	L	E	P	M	Optional Processing Code
MBJ02	8	18-490	1sE≤P×6	When M3-M8	4 5	LC LA()...
MBJ02	10	18-500		M+2sP<D	4 5 6	

MBJ02-D8-L150-E20-P5-M3-LC

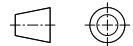
Code	Type		Tolerance		Material		Surface Treatment
	One End Stepped and Tapped	with Wrench Flats	D	P	GB	Equiv.	
MBJ12			g6	g6	45	S45C	Electroless Nickel Plating
MBJ52			h7	h7			



self made



D-P	g6	h7	h9
3	-0.002 -0.008	0 -0.010	0 -0.025
3.1~6	-0.004 -0.012	0 -0.012	0 -0.030
6.1~10	-0.005 -0.014	0 -0.015	0 -0.036
10.1~18	-0.006 -0.017	0 -0.018	0 -0.043
18.1~30	-0.007 -0.020	0 -0.021	0 -0.052
30.1~50	-0.009 -0.025	0 -0.025	0 -0.062



□ Circularity, straightness, perpendicularity and concentricity, please refer to the introduction of shaft products.

The first perspective

□ g6

Part Number	0.1 mm Increment	1 mm Inc.	M			Wrench Flats	W	V
Code	D _{g6}	L	E	P		K(1 mm Inc.)		
6	18.0~300.0			5	3			5
8	18.0~400.0				3 4 5			7 10
10	18.0~500.0				4 5 6			8
12	20.0~600.0			When M3-M8	5 6 8			10
13	20.0~600.0			M+2sP<D	5 6 8			12
15	20.0~700.0				5 6 8 10			13
16				When M10-M16	5 6 8 10			14 12
17				M+2sP<D	5 6 8 10 12		K=0	14 12
18					5 6 8 10 12		or	15
20	25.0~800.0			When M20-24	5 6 8 10 12		K≥1	17
22				M+2sP<D	5 6 8 10 12 16			19
25					5 6 8 10 12 16			22
30				When M30	8 10 12 16 20			27
35				M+2sP<D	8 10 12 16 20 24			30
40	35.0~800.0				12 16 20 24 30			36
50					16 20 24 30			41



Optional Processing

□ h7

Part Number	0.1 mm Increment	1 mm Inc.	M			Wrench Flats	W	V
Code	D _{h7}	L	E	P		K(1 mm Inc.)		
6	18.0~300.0			5	3			5
8	18.0~400.0				3 4 5			7 10
10	18.0~500.0			When M3-M8	4 5 6			8
12	20.0~600.0			M+2sP<D	5 6 8			10
15	20.0~700.0			When M10-M16	5 6 8 10			13
20	20.0~700.0			M+2sP<D	5 6 8 10 12		K=0	17 12
25	25.0~800.0				5 6 8 10 12 16		or	17 12
30				When M20-24	8 10 12 16 20		K≥1	22
35				M+2sP<D	8 10 12 16 20 24			27
40	35.0~800.0			When M30	12 16 20 24 30			30
50				M+2sP<D	16 20 24 30			36
								41 20



Part Number	D	L	E	P	M	K
Code	D	L	E	P	M	K
MBJ12	6	18-400	1≤E≤P×6	When M3-M8	3 4 5	K=0 or K≥1
MBJ52	10	18-500	1≤E≤P×6	M+2sP<D	4 5 6	K=0 or K≥1

MBJ12—D8—L150—E20—P5—M3—K10

□ Optional Processing

Part Number	D	L	E	P	M	K	Optional Processing Code
Code	D	L	E	P	M	K	
MBJ12	6	18-400	1≤E≤P×6	When M3-M8	3 4 5	K=0 or K≥1	LA()
MBJ52	10	18-500	1≤E≤P×6	M+2sP<D	4 5 6	K=0 or K≥1	LA()

MBJ12—D8—L150—E20—P5—M3—K10—LC



Per	1~4	5~
Price	100%	Additional Quotation



Delivery
10

Code	Spec.
LC	Changes L Dimension Tolerance Ordering Code LC □ L<400 changes to L±0.05 □ L≥400 changes to L±0.1
LA() LB()	Adds 1 Set Screw Flat. LA() Ordering Code LA10-G3 Ordering Code LB10-J3-Y10-X3 □ 1 mm Increment □ G·J·X ≤50. D H 6~17 1 18~40 2 50 3
KB() KC()	Adds 1 Keyway. KB() Ordering Code KB50-S10 Ordering Code KC50-C8-F40-T10 □ 1 mm Increment □ S·T·C ≤ 100. □ If 3 keyways are required, use both KB() and KC(). □ For keyway details, please refer to the product introduction.
KD()	Adds a Slit Cam Groove Ordering Code KD10 □ 1 mm Increment D d V2 6 5 7 8 7 4 10 8 5 12 10 5
MA() MB()	Adds a Retaining Ring Groove. (Applicable retaining rings are included.) Ordering Code MA10—MB10 □ 1 mm Increment □ MA(MB)=4~L/2 □ For retaining ring groove details, please refer to the product introduction.

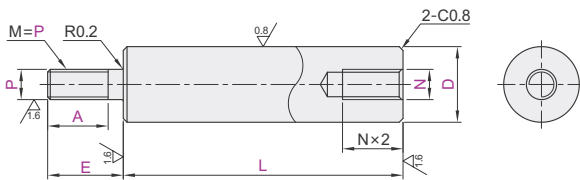
Rotary Shafts

One End Threaded & One End Tapped, Standard One End Stepped

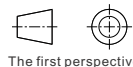
Code	Type	Tolerance	Material		Surface Treatment		
			D	P		GB	Equiv.
MBN02	One End Threaded & One End Tapped	Standard	g6	g6	45	S45C	Electroless Nickel Plating
MBN16					0Cr18Ni9	SUS304	—
MBN41			h7	h7	45	S45C	Electroless Nickel Plating
MBN46					0Cr18Ni9	SUS304	—
MBN66					0Cr18Ni9	SUS304	—
MBN81	h9	h7	45	S45C	Electroless Nickel Plating		
MBN82			0Cr18Ni9	SUS304	—		



self made



D-P	g6	h7	h9
3	-0.002 -0.008	0 -0.010	0 -0.025
3.1~6	-0.004 -0.012	0 -0.012	0 -0.030
6.1~10	-0.005 -0.014	0 -0.015	0 -0.036
10.1~18	-0.006 -0.017	0 -0.018	0 -0.043
18.1~30	-0.007 -0.020	0 -0.021	0 -0.052
30.1~50	-0.009 -0.025	0 -0.025	0 -0.062



Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.

g6

Part Number	0.1 mm Inc.		1 mm Inc.		P	N
Code	D _{g6}	L	E	A		
MBN02	6	18.0~300.0			3 4 5	3 4
	8	18.0~400.0			3 4 5 6	3 4 5 6
	10	18.0~500.0			4 5 6 8	4 5 6
	12	25.0~600.0			5 6 8 10	5 6 8
	13	20.0~600.0			5 6 8 10	5 6 8
	15	25.0~700.0			5 6 8 10 12	5 6 8 10
	16	20.0~800.0			5 6 8 10 12	5 6 8 10
	17	35.0~600.0			5 6 8 10 12	5 6 8 10 12
	18	25.0~800.0	5 ≤ E ≤ P × 8		5 6 8 10 12	5 6 8 10 12
	20	35.0~600.0			5 6 8 10 12 16	5 6 8 10 12
MBN16	22	25.0~800.0			5 6 8 10 12 16	5 6 8 10 12 16
	25	45.0~800.0			5 6 8 10 12 16 20	5 6 8 10 12 16
	30	55.0~800.0			8 10 12 16 20 24	8 10 12 16 20
	35	65.0~800.0			8 10 12 16 20 24 30	8 10 12 16 20 24
	40	75.0~800.0			12 16 20 24 30	12 16 20 24 30
	50	95.0~800.0			16 20 24 30	16 20 24 30



Optional Processing

Code	Spec.
LC	Changes L Dimension Tolerance Ordering Code LC L < 400 changes to L ± 0.05 L ≥ 400 changes to L ± 0.1

Code	Spec.
MC()	Changes threads to Fine Thread in the Right Table Ordering Code MC20 MC (X) (Fine Thread)

h7

Part Number	0.1 mm Inc.		1 mm Inc.		P	N
Code	D _{h7}	L	E	A		
MBN41	6	18.0~300.0			3 4 5	3 4
	8	18.0~400.0			3 4 5 6	3 4 5 6
	10	18.0~500.0			4 5 6 8	4 5 6
	12	25.0~600.0			5 6 8 10	5 6 8
	15	25.0~700.0			5 6 8 10 12	5 6 8 10
	18	35.0~800.0	5 ≤ E ≤ P × 8		5 6 8 10 12 16	5 6 8 10 12 16
	25	45.0~800.0			5 6 8 10 12 16 20	5 6 8 10 12 16
	30	55.0~800.0			8 10 12 16 20 24	8 10 12 16 20
	35	65.0~800.0			8 10 12 16 20 24 30	8 10 12 16 20 24
	40	75.0~800.0			12 16 20 24 30	12 16 20 24 30
MBN46	50	95.0~800.0			16 20 24 30	16 20 24 30

In selection, P must be changed to MC. In selection, P and MC must be the same size.

Code	Spec.
LA()	Adds 1 Set Screw Flat. LA()
LB()	Adds 2 Set Screw Flats. LB()

h9

Part Number	0.1 mm Inc.		1 mm Inc.		P	N
Code	D _{h9}	L	E	A		
MBN66	6	18.0~300.0			3 4 5	3 4
	8	18.0~400.0			3 4 5 6	3 4 5 6
	10	18.0~500.0			4 5 6 8	4 5 6
	12	25.0~600.0			5 6 8 10	5 6 8
	15	25.0~700.0			5 6 8 10 12	5 6 8 10
	18	35.0~800.0	5 ≤ E ≤ P × 8		5 6 8 10 12 16	5 6 8 10 12 16
	25	45.0~800.0			5 6 8 10 12 16 20	5 6 8 10 12 16
	30	55.0~800.0			8 10 12 16 20 24	8 10 12 16 20
	35	65.0~800.0			8 10 12 16 20 24 30	8 10 12 16 20 24
	40	75.0~800.0			12 16 20 24 30	12 16 20 24 30

Code	Spec.
KB()	Adds 1 Keyway. KB()
KC()	Adds 2 Keyways. KC()



Please order as shown

Part Number	D	L	E	A	P	N
MBN02	6	18-300			3 4 5	3 4
MBN02-D6-L150-E20-A7-P3-N3	8	18-400	5 ≤ E ≤ P × 8		3 4 5 6	3 4 5 6

Optional Processing

Part Number	D	L	E	A	P	N	Optional Processing Code
MBN02	6	18-300			3 4 5	3 4	MC()
MBN02-D6-L150-E20-A7-P3-N3-LC	8	18-400	5 ≤ E ≤ P × 8		3 4 5 6	3 4 5 6	MC()



Discount price
Per 1~4 5~
Price 100% Additional quotation



Delivery
8



Delivery
10

No Surface Treatment

With Surface Treatment

Code	Spec.
PA()	Adds a Keyway on the Shaft End P

Code	Spec.
KD()	Adds a Slit Cam Groove

Code	Spec.
MA()	Adds a Retaining Ring Groove. (Applicable retaining rings are included)

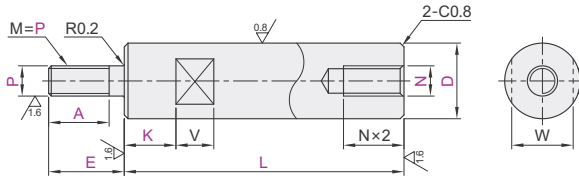
Code	Type		Tolerance		Material		Surface Treatment	
			D	P	GB	Equiv.		
MBN12	One End Threaded & One End Tapped	Wrench Flats	g6	g6	45	S45C	Electroless Nickel Plating	
MBN26					0Cr18Ni9	SUS304	—	
MBN52					45	S45C	Electroless Nickel Plating	
MBN56			h7	h7	g6	0Cr18Ni9	SUS304	—
MBN72						45	S45C	Electroless Nickel Plating
MBN76						0Cr18Ni9	SUS304	—
MBN92			h9	h7	g6	45	S45C	Electroless Nickel Plating
MBN96						0Cr18Ni9	SUS304	—



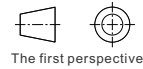
self made



D-P	g6	h7	h9
3	-0.002 -0.008	0 -0.010	0 -0.025
3.1~6	-0.004 -0.012	0 -0.012	0 -0.030
6.1~10	-0.005 -0.014	0 -0.015	0 -0.036
10.1~18	-0.006 -0.017	0 -0.018	0 -0.043
18.1~30	-0.007 -0.020	0 -0.021	0 -0.052
30.1~50	-0.009 -0.025	0 -0.025	0 -0.062



Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.



g6

Part Number	0.1 mm Inc.		1 mm Inc.		P	N	K	W	V
Code	D _{g6}	L	E	A					
MBN12 MBN26	6	18-300			3 4 5	3 4	K=0 or K≥1	5	10
	8	18-400			3 4 5 6	3 4 5 6		7	
	10	18-500			4 5 6 8	4 5 6		8	
	12	25-600		When P≤6	5 6 8 10	5 6 8		10	Optional Processing
	13	20-600		As E-2	5 6 8 10	5 6 8		11	
	15	25-700		As E-2	5 6 8 10 12	5 6 8 10		13	
	16	20-800		As E-2	5 6 8 10 12	5 6 8 10		13	
	17	35-600	5sE≤P×8	When P=8-10	5 6 8 10 12	5 6 8 10 12		14	
	18	25-800	5sE≤P×8	As E-3	5 6 8 10 12	5 6 8 10 12		15	
	20	35-800	5sE≤P×8	As E-3	5 6 8 10 12 16	5 6 8 10 12		17	
	22	25-800	5sE≤P×8	As E-3	5 6 8 10 12 16	5 6 8 10 12 16		19	
	25	45-800	5sE≤P×8	When P≥12	5 6 8 10 12 16 20	5 6 8 10 12 16		22	
	30	55-800	5sE≤P×8	As E-5	8 10 12 16 20 24	8 10 12 16 20		27	
	35	65-800	5sE≤P×8	As E-5	8 10 12 16 20 24 30	8 10 12 16 20 24		30	
	40	75-800	5sE≤P×8	As E-5	12 16 20 24 30	12 16 20 24 30		36	
50	95-800	5sE≤P×8	As E-5	16 20 24 30	16 20 24 30		41		

h7

Part Number	0.1 mm Inc.		1 mm Inc.		P	N	K	W	V
Code	D _{h7}	L	E	A					
MBN52 MBN56	6	18-300			3 4 5	3 4	K=0 or K≥1	5	Optional Processing
	8	18-400			4 5 6	3 4 5 6		7	
	10	18-500			4 5 6 8	4 5 6		8	
	12	25-600		When P≤6	5 6 8 10	5 6 8		10	
	15	25-700		As E-2	5 6 8 10 12	5 6 8 10		13	
	20	35-800	5sE≤P×8	When P=8-10	5 6 8 10 12 16	5 6 8 10 12 16		17	
	25	45-800	5sE≤P×8	As E-3	5 6 8 10 12 16 20	5 6 8 10 12 16		22	
	30	55-800	5sE≤P×8	As E-3	8 10 12 16 20 24	8 10 12 16 20		27	
	35	65-800	5sE≤P×8	When P≥12	8 10 12 16 20 24 30	12 16 20 24		30	
	40	75-800	5sE≤P×8	As E-5	12 16 20 24 30	12 16 20 24 30		36	
	50	95-800	5sE≤P×8	As E-5	16 20 24 30	16 20 24 30		41	

h9

Part Number	0.1 mm Inc.		1 mm Inc.		P	N	K	W	V
Code	D _{h9}	L	E	A					
MBN72 MBN76 MBN92 MBN96	6	18-300			3 4 5	3 4	K=0 or K≥1	5	Optional Processing
	8	18-400			4 5 6	3 4 5 6		7	
	10	18-500			4 5 6 8	4 5 6		8	
	12	25-600		When P≤6	5 6 8 10	5 6 8		10	
	15	25-700	5sE≤P×8	When P=8-10	5 6 8 10 12	5 6 8 10		13	
	20	35-800	5sE≤P×8	As E-3	5 6 8 10 12 16	5 6 8 10 12 16		17	
	25	45-800	5sE≤P×8	As E-3	5 6 8 10 12 16 20	5 6 8 10 12 16		22	
	30	55-800	5sE≤P×8	When P≥12	8 10 12 16 20 24	8 10 12 16 20		27	
	35	65-800	5sE≤P×8	As E-5	12 16 20 24 30	12 16 20 24		30	



Part Number	D	L	E	A	P	N	K
MBN12	6	18-300	5sE≤P×8	When P≤6	3 4 5	3 4	K=0 or K≥1
MBN26	8	18-400	5sE≤P×8	When P≤6	3 4 5 6	3 4 5 6	K=0 or K≥1

MBN12-D6-L150-E20-A7-P3-N3-K5

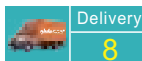
Optional Processing

Part Number	D	L	E	A	P	N	K	Optional Processing code
MBN12	6	18-300	5sE≤P×8	When P≤6	3 4 5	3 4	K=0 or K≥1	MC()
MBN26	8	18-400	5sE≤P×8	When P≤6	3 4 5 6	3 4 5 6	K=0 or K≥1	MC()

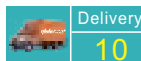
MBN12-D6-L150-E20-A7-P3-N3-K5-LC



Discount price
Per 1~4 5~
Price 100% Additional quotation.



Delivery 8



Delivery 10

No Surface Treatment

with Surface Treatment



Code	Spec.																										
LC	Changes L Dimension Tolerance Ordering Code LC L < 400 changes to L ± 0.05 L ≥ 400 changes to L ± 0.1																										
MC()	Change the Thread to Fine Thread in the Right Table Ordering Code MC20 <table border="1"> <thead> <tr> <th>D</th> <th>MC</th> </tr> </thead> <tbody> <tr><td>6</td><td>3 4 5</td></tr> <tr><td>8</td><td>3 4 5 6</td></tr> <tr><td>10</td><td>4 5 6 8</td></tr> <tr><td>12-15</td><td>5 6 8 10</td></tr> <tr><td>15-16</td><td>5 6 8 10 12</td></tr> <tr><td>17-18</td><td>6 8 10 12 15</td></tr> <tr><td>20-22</td><td>6 8 10 12 15 17</td></tr> <tr><td>25</td><td>8 10 12 15 17 20</td></tr> <tr><td>30</td><td>8 10 12 15 17 20 25</td></tr> <tr><td>35</td><td>10 12 15 17 20 25 30</td></tr> <tr><td>40</td><td>12 15 17 20 25 30 35</td></tr> <tr><td>50</td><td>15 17 20 25 30 35 40</td></tr> </tbody> </table> <p>Pitch 0.35(0.5/0.75) 1.0 1.5</p>	D	MC	6	3 4 5	8	3 4 5 6	10	4 5 6 8	12-15	5 6 8 10	15-16	5 6 8 10 12	17-18	6 8 10 12 15	20-22	6 8 10 12 15 17	25	8 10 12 15 17 20	30	8 10 12 15 17 20 25	35	10 12 15 17 20 25 30	40	12 15 17 20 25 30 35	50	15 17 20 25 30 35 40
D	MC																										
6	3 4 5																										
8	3 4 5 6																										
10	4 5 6 8																										
12-15	5 6 8 10																										
15-16	5 6 8 10 12																										
17-18	6 8 10 12 15																										
20-22	6 8 10 12 15 17																										
25	8 10 12 15 17 20																										
30	8 10 12 15 17 20 25																										
35	10 12 15 17 20 25 30																										
40	12 15 17 20 25 30 35																										
50	15 17 20 25 30 35 40																										
LA()	Adds 1 Set Screw Flat. LA() Ordering Code LA10-G3 LA() G() h 1 mm Increment G-J-X≤50																										
LB()	Adds 2 Set Screw Flats. LB() Ordering Code LB10-J3-Y10-X3 LB() G() h 1 mm Increment G-J-X≤50																										
KB()	Adds 1 Keyway. KB() Ordering Code KB50-S10 KB() S() 1 mm Increment S-T-C ≤ 100																										
KC()	Adds 2 Keyways. KC() Ordering Code KC50-C8-K40-T10 KC() C() T() H() If 3 keyways are required, use both KB() and KC(). For keyway details, please refer to the product introduction.																										
PA()	Adds a Keyway on the Shaft End P Ordering Code PA10 PA() 1 mm Increment PA≥50, PA≥E, P≤5 Not applicable. For keyway details, please refer to the product introduction.																										
KD()	Adds a Slit Cam Groove Ordering Code KD10 KD() V2 1 mm Increment <table border="1"> <thead> <tr> <th>D</th> <th>d</th> <th>V2</th> </tr> </thead> <tbody> <tr><td>6</td><td>5</td><td>4</td></tr> <tr><td>8</td><td>7</td><td>4</td></tr> <tr><td>10</td><td>8</td><td>5</td></tr> <tr><td>12</td><td>10</td><td>5</td></tr> </tbody> </table>	D	d	V2	6	5	4	8	7	4	10	8	5	12	10	5											
D	d	V2																									
6	5	4																									
8	7	4																									
10	8	5																									
12	10	5																									
MA()	Adds a Retaining Ring Groove. (Applicable retaining rings are included) Ordering Code MA10-MB10 MA() MB() 1 mm Increment MA(MB)=4-L/2 For retaining ring groove details, please refer to the product introduction.																										

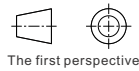
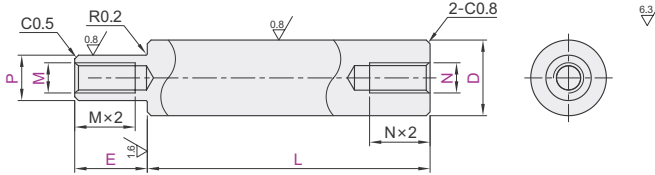
Rotary Shafts

Both Ends Tapped, Standard One End Stepped

Code	Type		Tolerance		Material		Surface Treatment
			D	P	GB	Equiv.	
MBK02	Both Ends Tapped	Standard	g6	g6	45	S45C	Electroless Nickel Plating
MBK16					0Cr18Ni9	SUS304	—
MBK42			h7	h7	45	S45C	Electroless Nickel Plating
MBK46					0Cr18Ni9	SUS304	—
MBK61			h9	g6	45	S45C	Electroless Nickel Plating
MBK66					0Cr18Ni9	SUS304	—
MBK82			h7	h7	45	S45C	Electroless Nickel Plating



D-P	g6	h7	h9
3.1~6	-0.004 -0.012	0 -0.012	0 -0.030
6.1~10	-0.005 -0.014	0 -0.015	0 -0.036
10.1~18	-0.006 -0.017	0 -0.018	0 -0.043
18.1~30	-0.007 -0.020	0 -0.021	0 -0.052
30.1~50	-0.009 -0.025	0 -0.025	0 -0.062



Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.

The first perspective

g6

Part Number	0.1 mm Inc.		1 mm Inc.		M	N
Code	D _{g6}	L	E	P		
6	18.0~300.0			5	3	3
8	18.0~400.0				3 4 5	3 4 5 6
10	18.0~500.0				4 5 6	4 5 6
12	25.0~600.0			When M3-M8 M+2≤P<D	5 6 8	5 6 8
13					5 6 8	5 6 8
15	25.0~700.0			When M10-M16 M+3≤P<D	5 6 8 10	5 6 8 10
16					5 6 8 10	5 6 8 10
17	35.0~600.0	1≤E≤P×6		When M20-24 M+4≤P<D	5 6 8 10 12	5 6 8 10 12
18					5 6 8 10 12	5 6 8 10 12
20	45.0~800.0			When M30	8 10 12 16 20	8 10 12 16 20
22					8 10 12 16 20	8 10 12 16 20
25	55.0~800.0			When M30	8 10 12 16 20 24	8 10 12 16 20 24
30					8 10 12 16 20 24	8 10 12 16 20 24
35	65.0~800.0			When M30	12 16 20 24 30	12 16 20 24 30
40					12 16 20 24 30	12 16 20 24 30
45	75.0~800.0			When M30	16 20 24 30	16 20 24 30
50					16 20 24 30	16 20 24 30



Optional Processing

Code	Spec.															
LC	<p>Changes L Dimension Tolerance</p> <p>Ordering Code LC</p> <p>L < 400 changes to L±0.05 L ≥ 400 changes to L±0.1</p>															
LA() LB()	<p>Adds 1 Set Screw Flat. LA()</p> <p>Ordering Code LA10-G3</p> <p>Ordering Code LB10-J3-Y10-X3</p> <p>Adds 2 Set Screw Flats. LB()</p> <p>1 mm Increment</p> <p>G-J-X ≤ 50.</p> <table border="1"> <tr> <th>D</th> <th>h</th> </tr> <tr> <td>6~17</td> <td>1</td> </tr> <tr> <td>18~40</td> <td>2</td> </tr> <tr> <td>50</td> <td>3</td> </tr> </table>	D	h	6~17	1	18~40	2	50	3							
D	h															
6~17	1															
18~40	2															
50	3															
KB() KC()	<p>Adds 1 Keyway. KB()</p> <p>Ordering Code KB50-S10</p> <p>Ordering Code KC50-C8-K40-T10</p> <p>1 mm Increment</p> <p>S-T-C ≤ 100.</p> <p>If 3 keyways are required, use both KB() and KC().</p> <p>For keyway details, please refer to the product introduction.</p>															
KD()	<p>Adds 2 Keyways. KC()</p> <p>Ordering Code KD10</p> <p>1 mm Increment</p> <p>Only applicable to D=6~12.</p> <table border="1"> <tr> <th>D</th> <th>d</th> <th>V2</th> </tr> <tr> <td>6</td> <td>5</td> <td>4</td> </tr> <tr> <td>8</td> <td>7</td> <td>4</td> </tr> <tr> <td>10</td> <td>8</td> <td>5</td> </tr> <tr> <td>12</td> <td>10</td> <td>5</td> </tr> </table>	D	d	V2	6	5	4	8	7	4	10	8	5	12	10	5
D	d	V2														
6	5	4														
8	7	4														
10	8	5														
12	10	5														
MA() MB()	<p>Adds a Retaining Ring Groove. (Applicable retaining rings are included.)</p> <p>Ordering Code MA10-MB10</p> <p>1 mm Increment</p> <p>MA(MB) = 4-L/2</p> <p>For retaining ring groove details, please refer to the product introduction.</p>															

h7

Part Number	0.1 mm Inc.		1 mm Inc.		M	N
Code	D _{h7}	L	E	P		
6	18.0~300.0			5	3	3
8	18.0~400.0				3 4 5	3 4 5 6
10	18.0~500.0				4 5 6	4 5 6
12	25.0~600.0			When M3-M8 M+2≤P<D	5 6 8	5 6 8
13					5 6 8	5 6 8
15	25.0~700.0			When M10-M16 M+3≤P<D	5 6 8 10	5 6 8 10
16					5 6 8 10	5 6 8 10
17	35.0~600.0	1≤E≤P×6		When M20-24 M+4≤P<D	5 6 8 10 12	5 6 8 10 12
18					5 6 8 10 12	5 6 8 10 12
20	45.0~800.0			When M20-24 M+4≤P<D	8 10 12 16 20	8 10 12 16 20
22					8 10 12 16 20	8 10 12 16 20
25	55.0~800.0			When M30	8 10 12 16 20 24	8 10 12 16 20 24
30					8 10 12 16 20 24	8 10 12 16 20 24
35	65.0~800.0			When M30	12 16 20 24 30	12 16 20 24 30
40					12 16 20 24 30	12 16 20 24 30
45	75.0~800.0			When M30	16 20 24 30	16 20 24 30
50					16 20 24 30	16 20 24 30

h9

Part Number	0.1 mm Inc.		1 mm Inc.		M	N
Code	D _{h9}	L	E	P		
6	18.0~300.0				3	3
8	18.0~400.0				3 4 5	3 4 5
10	18.0~500.0				4 5 6	4 5 6
12	25.0~600.0			When M3-M8 M+2≤P<D	5 6 8	5 6 8
13					5 6 8	5 6 8
15	25.0~700.0	2≤E≤P×5		When M10-M16 M+3≤P<D	5 6 8 10	5 6 8 10
16					5 6 8 10	5 6 8 10
17	35.0~600.0			When M20-24 M+4≤P<D	5 6 8 10 12	5 6 8 10 12 16
18					5 6 8 10 12	5 6 8 10 12 16
20	45.0~800.0			When M20-24 M+4≤P<D	5 6 8 10 12 16	5 6 8 10 12 16
22					5 6 8 10 12 16	5 6 8 10 12 16
25	55.0~800.0			When M30	8 10 12 16 20	8 10 12 16 20
30					8 10 12 16 20	8 10 12 16 20
35	65.0~800.0			When M30	8 10 12 16 20 24	8 10 12 16 20 24
40					8 10 12 16 20 24	8 10 12 16 20 24

Optional Processing

Part Number	D	L	E	P	M	N	Optional Processing Code
MBK02	6	18~300	1≤E≤P×6	5	3	3	LC LA() ...
MBK02	8	18~400	1≤E≤P×6	5	3 4	3 4	LC LA() ...

Please order as shown

MBK02-D6-L150-E20-P5-M3-N3

MBK02-D6-L150-E20-P5-M3-N3-LC

Discount price
Per 1~4 5~
Price 100% Additional Quotation

Delivery
8
No Surface Treatment

Delivery
10
With Surface Treatment

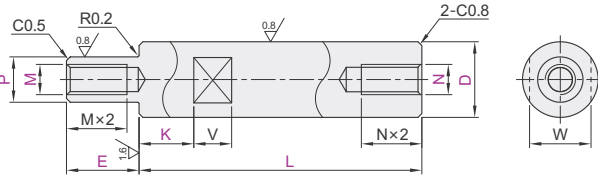
Both Ends Tapped, with Wrench Flats ▶ One End Stepped

Rotary Shafts

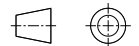
Code	Type		Tolerance		Material		Surface Treatment
			D	P	GB	Equiv.	
MBK12	Both Ends Tapped	with Wrench Flats	g6	g6	45	S45C	Electroless Nickel Plating
MBK26					0Cr18Ni9	SUS304	—
MBK56			h7	h7	0Cr18Ni9	SUS304	—
MBK92					45	S45C	Electroless Nickel Plating
MBK96	h9	h7	0Cr18Ni9	SUS304	—		



Self made



D-P	g6	h7	h9
3.1~6	-0.004 -0.012	0 -0.012	0 -0.030
6.1~10	-0.005 -0.014	0 -0.015	0 -0.036
10.1~18	-0.006 -0.017	0 -0.018	0 -0.043
18.1~30	-0.007 -0.020	0 -0.021	0 -0.052
30.1~50	-0.009 -0.025	0 -0.025	0 -0.062



Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.

The first perspective

g6

Part Number	0.1 mm Inc.	1 mm Inc.	M		N		K	W	V
Code	D _{g6}	L	E	P	M	N	1mm Inc.	W	V
6	18-300			5	3	3		5	
8	18-400				3 4 5	3 4 5 6		7	10
10	18-500			When M3-M8	4 5 6	4 5 6		8	
12	25-600			M+2<P<D	5 6 8	5 6 8		10	
13	25-700				5 6 8	5 6 8		11	
15	25-700			When M10-M16	5 6 8 10	5 6 8 10		13	
16	35-600	1≤E≤P×6		M+3<P<D	5 6 8 10	5 6 8 10		14	12
17	35-600				5 6 8 10 12	5 6 8 10 12	K=0 or K≥1	15	
18	35-600			When M20-24	5 6 8 10 12	5 6 8 10 12		17	
20	45-800			M+4<P<D	5 6 8 10 12 16	5 6 8 10 12 16		19	
22	45-800				5 6 8 10 12 16	5 6 8 10 12 16		22	
25	45-800				5 6 8 10 12 16	5 6 8 10 12 16		27	16
30	55-800			When M30	8 10 12 16 20	8 10 12 16 20		30	
35	65-800				8 10 12 16 20 24	8 10 12 16 20 24		36	20
40	75-800			M+5<P<D	12 16 20 24 30	12 16 20 24 30		41	
50	95-800				16 20 24 30	16 20 24 30		41	



Optional Processing

Code	Spec.								
LC	<p>Changes L Dimension Tolerance</p> <p>Ordering Code LC</p> <p>L < 400 changes to L±0.05 L ≥ 400 changes to L±0.1</p>								
LA() LB()	<p>Adds 1 Set Screw Flat. LA()</p> <p>Ordering Code LA10-G3</p> <p>Ordering Code LB10-J3-Y10-X3</p> <p>1mm Increment</p> <p>G-J-X ≤ 50.</p> <table border="1"> <tr> <th>D</th> <th>h</th> </tr> <tr> <td>6-17</td> <td>1</td> </tr> <tr> <td>18-40</td> <td>2</td> </tr> <tr> <td>50</td> <td>3</td> </tr> </table>	D	h	6-17	1	18-40	2	50	3
D	h								
6-17	1								
18-40	2								
50	3								

h7

Part Number	0.1 mm Inc.	1 mm Inc.	M		N		K	W	V
Code	D _{h7}	L	E	P	M	N	1mm Inc.	W	V
6	18-300			5	3	3		5	
8	18-400				3 4 5	3 4 5 6		7	10
10	18-500			When M3-M8	4 5 6	4 5 6		8	
12	25-600			M+2<P<D	5 6 8	5 6 8		10	
15	25-700			When M10-M16	5 6 8 10	5 6 8 10		13	
16	35-800	1≤E≤P×6		M+3<P<D	5 6 8 10 12	5 6 8 10 12 16		17	12
20	45-800			When M20-24	5 6 8 10 12 16	5 6 8 10 12 16		22	
30	55-800			M+4<P<D	8 10 12 16 20	8 10 12 16 20		27	16
35	65-800				8 10 12 16 20 24	8 10 12 16 20 24		30	
40	75-800			When M30	12 16 20 24 30	12 16 20 24		36	20
50	95-800			M+5<P<D	16 20 24 30	16 20 24		41	

KB() KC()	<p>Adds 1 Keyway. KB()</p> <p>Ordering Code KB50-S10</p> <p>Ordering Code KC50-C8-K40-T10</p> <p>1mm Increment</p> <p>S-T-C ≤ 100.</p> <p>If 3 keyways are required, use both KB() and KC().</p> <p>For keyway details, please refer to the product introduction.</p>															
KD()	<p>Adds a Slit Cam Groove</p> <p>Ordering Code KD10</p> <p>1mm Increment</p> <p>Only applicable to D=6-12.</p> <table border="1"> <tr> <th>D</th> <th>d</th> <th>V2</th> </tr> <tr> <td>6</td> <td>5</td> <td>4</td> </tr> <tr> <td>8</td> <td>7</td> <td>4</td> </tr> <tr> <td>10</td> <td>8</td> <td>5</td> </tr> <tr> <td>12</td> <td>10</td> <td>5</td> </tr> </table>	D	d	V2	6	5	4	8	7	4	10	8	5	12	10	5
D	d	V2														
6	5	4														
8	7	4														
10	8	5														
12	10	5														

h9

Part Number	0.1 mm Inc.	1 mm Inc.	M		N		K	W	V
Code	D _{h9}	L	E	P	M	N	1mm Inc.	W	V
6	18-300			5	3	3		5	
8	18-400				3 4 5	3 4 5		7	10
10	18-500			When M3-M8	4 5 6	4 5 6		8	
12	25-600			M+2<P<D	5 6 8	5 6 8		10	
15	25-700	2≤E≤P×5		When M10-M16	5 6 8 10	5 6 8 10		13	
20	35-800			M+3<P<D	5 6 8 10 12	5 6 8 10 12 16		17	12
25	45-800			When M20-24	5 6 8 10 12 16	5 6 8 10 12 16		22	
30	55-800			M+4<P<D	8 10 12 16 20	8 10 12 16 20		27	16
35	65-800				8 10 12 16 20 24	8 10 12 16 20 24		30	

MA() MB()	<p>Adds a Retaining Ring Groove. (Applicable retaining rings are included.)</p> <p>Ordering Code MA10-MB10</p> <p>1mm Increment</p> <p>MA(MB)=4-L/2</p> <p>For retaining ring groove details, please refer to the product introduction.</p>
-----------	---



Please order as shown

Part Number	L	E	P	M	N	K
Code	D					
MBK12	6 18-300	1≤E≤P×6	5	3	3	K=0 or K≥1
8	18-400					

MBK12—D6—L150—E20—P5—M3—N3—K0

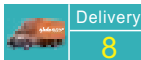
Optional Processing

Part Number	L	E	P	M	N	K	Optional Processing Code
Code	D						
MBK12	6 18-300	1≤E≤P×6	5	3	3	K=0 or K≥1	LA() ...
8	18-400						

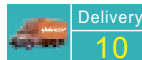
MBK12—D6—L150—E20—P5—M3—N3—K0—LC



Discount price
Per 1~4 5~
Price 100% Additional quotation



No Surface Treatment



with Surface Treatment

Rotary Shafts

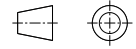
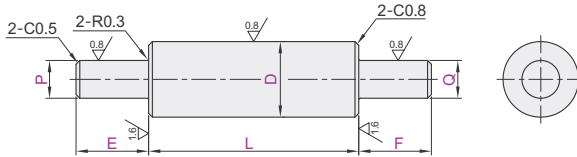
Standard Both Ends Stepped

Code	Type	Tolerance		Material		Surface Treatment
		D	P.Q	GB	Equiv.	
MCC02	Standard	g6	g6	45	S45C	Electroless Nickel Plating
MCC16				0Cr18Ni9	SUS304	—
MCC22				35CrMo	SCM435	Electroless Nickel Plating
MCC42				Hardness 28~33 HRC		
MCC46				45	S45C	Electroless Nickel Plating
MCC62		h7	h7	0Cr18Ni9	SUS304	—
MCC66				45	S45C	Electroless Nickel Plating
MCC82				0Cr18Ni9	SUS304	—
MCC86				45	S45C	Electroless Nickel Plating
MCC82				0Cr18Ni9	SUS304	—



self made

D-P.Q	g6	h7	h9
3	-0.002 -0.008	0 -0.010	0 -0.025
3.1~6	0 -0.012	0 -0.012	0 -0.030
6.1~10	-0.005 -0.014	0 -0.015	0 -0.036
10.1~18	-0.006 -0.017	0 -0.018	0 -0.043
18.1~30	-0.007 -0.020	0 -0.021	0 -0.052
30.1~50	-0.009 -0.025	0 -0.025	0 -0.062



The first perspective

Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.

g6

Part Number Code	D _{g6}	0.1 mm Increment		1 mm Increment P-Q
		L	E-F	
6	18.0~300.0		2 3 4 5	
8	18.0~400.0		3 ≤ P-Q < D	
10	18.0~500.0			
12				
13	20.0~600.0			
15	20.0~700.0			
16			4 ≤ P-Q < D	
17		1 ≤ E ≤ P × 6		
18		1 ≤ F ≤ Q × 6		
20	20.0~800.0			
22				
25			8 ≤ P-Q < D	
30				
35				
40	35.0~800.0		15 ≤ P-Q < D	
50				



Optional Processing

Code	Spec.
LC	Changes L Dimension Tolerance Ordering Code: LC L < 400 changes to L _{±0.05} L ≥ 400 changes to L _{±0.1}
LA() LB()	Adds 1 Set Screw Flat. LA() Ordering Code: LA10-G3 Ordering Code: LB10-J3-Y10-X3 Add 1mm Increment Add 2 Set Screw Flats. LB() Ordering Code: G-J-X ≤ 50.
KE()	Adds a Wrench Flat Ordering Code: KE10 1mm Increment
KB() KC()	Adds 1 Keyway. KB() Ordering Code: KB50-S10 Ordering Code: KC50-C8-K40-T10 Add 1mm Increment Add 2 Keyways. KC() Ordering Code: S-T-C ≤ 100. If 3 keyways are required, use both KB() and KC(). For keyway details, please refer to the product introduction.
PA() QA()	Adds a Keyway on the Shaft End P (Q) Ordering Code: PA10 1mm Increment PA-QA ≥ 50, PA-QA ≥ E, P(Q) ≤ 5 Not applicable. For keyway details, please refer to the product introduction.
KD()	Adds a Slit Cam Groove Ordering Code: KD10 1mm Increment Only applicable to D=6-12.
MA() MB()	Adds a Retaining Ring Groove (Applicable retaining rings are included.) Ordering Code: MA10-MB10 1mm Increment MA(MB) = 4-L/2 For retaining ring groove details, please refer to the product introduction.

h7

Part Number Code	D _{h7}	0.1 mm Increment		1 mm Increment P-Q
		L	E-F	
6	18.0~300.0		2 3 4 5	
8	18.0~400.0		3 ≤ P-Q < D	
10	18.0~500.0			
12	20.0~600.0			
15	20.0~700.0			
20	25.0~800.0	1 ≤ E ≤ P × 6	4 ≤ P-Q < D	
25		1 ≤ F ≤ Q × 6		
30			8 ≤ P-Q < D	
35				
40	35.0~800.0		15 ≤ P-Q < D	
50				

h9

Part Number Code	D _{h9}	0.1 mm Increment		1 mm Increment P-Q
		L	E-F	
6	18.0~300.0		2 3 4 5	
8	18.0~400.0		3 ≤ P-Q < D	
10	18.0~500.0			
12	20.0~600.0			
15	20.0~700.0			
20	25.0~800.0	1 ≤ E ≤ P × 6	4 ≤ P-Q < D	
25		1 ≤ F ≤ Q × 6		
30			8 ≤ P-Q < D	
35	35.0~800.0		15 ≤ P-Q < D	



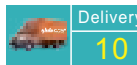
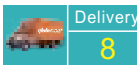
Part Number Code	D	L	E-F	P-Q
MCC02	6	18-300	1 ≤ E ≤ P × 6	2 3 4 5
MCC02	8	18-400	1 ≤ F ≤ Q × 6	3 ≤ P-Q < D
MCC02-D6-L150-E20-F20-P5-Q5				



Discount price
Per 1~4 5~
Price 100% Additional quotation

Optional Processing

Part Number Code	D	L	E-F	P-Q	Optional Processing Code
MCC02	6	18-300	1 ≤ E ≤ P × 6	2 3 4 5	LA()...
MCC02	8	18-400	1 ≤ F ≤ Q × 6	3 ≤ P-Q < D	



MCC02-D6-L150-E20-F20-P5-Q5-LC No Surface Treatment with Surface Treatment

Rotary Shafts A4

with Retaining Ring Groove ▶
Both Ends Tapped, Standard ▶
Both Ends Stepped

Rotary Shafts

Code	Type	Tolerance		Material		Surface Treatment	Accessories	
		D	P	GB	Equiv.			
MCD02	with Retaining Ring Groove	g6	g6	45	S45C	Electroless Nickel Plating	Retaining Rings 2 pcs.	
MCF02	Both Ends Tapped Standard	g6	g6	45	S45C	Electroless Nickel Plating		
MCF16				0Cr18Ni9	SUS304	—		
MCF42			h7	h7	45	S45C	Electroless Nickel Plating	
MCF46					0Cr18Ni9	SUS304	—	
MCF66			g6	g6	45	S45C	Electroless Nickel Plating	
MCF82			h9	h9	0Cr18Ni9	SUS304	—	
MCF86				45	S45C	Electroless Nickel Plating		
				0Cr18Ni9	SUS304	—		



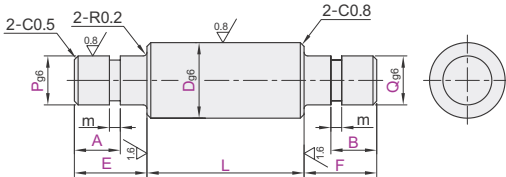
self made



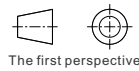
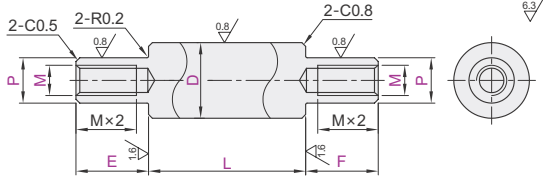
D·P	g6	h7	h9
3.1~6	-0.004 -0.012	0 -0.012	0 -0.030
6.1~10	-0.005 -0.014	0 -0.015	0 -0.036
10.1~18	-0.006 -0.017	0 -0.018	0 -0.043
18.1~30	-0.007 -0.020	0 -0.021	0 -0.052
30.1~50	-0.009 -0.025	0 -0.025	0 -0.062

- ① Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.
- ② For retaining rings details, please refer to the rotary shafts product introduction.

with Retaining Ring Groove MCD02



Both Ends Tapped MCF01~86



with Retaining Ring Groove

Part Number	1 mm Inc.			1 mm Inc.		
	Code	D _{g6}	L	E·F	A·B	P·Q
MCD02	6	18-300				2 3 4 5
	8	18-400				3 ≤ P·Q < D
	10	18-500			When P·Q ≤ 6	
	12				AB ≥ 2	
	13					
	15	20-600			When 6 < P·Q ≤ 10	
	16				AB ≥ 3	4 ≤ P·Q < D
	17				E ≤ P × 6	
	18				F ≤ Q × 6	
	20	25-600			When 10 < P·Q ≤ 20	
	22				AB ≥ 4	
	25					8 ≤ P·Q < D
	30				When 20 < P·Q	
	35				AB ≥ 5	
	40	35-600				15 ≤ P·Q < D
50						

Both Ends Tapped, g6

Part Number	0.1 mm Inc.			1 mm Inc.	M	
	Code	D _{g6}	L	E·F		P
MCF02	6	18-300				3
	8	18-400				3 4 5
	10	18-500				4 5 6
	12	20-600				5 6 8
	13					5 6 8
	15	20-700				5 6 8 10
	16					5 6 8 10
	17			1 ≤ E ≤ P × 6		5 6 8 10 12
	18			1 ≤ F ≤ P × 6		5 6 8 10 12
	20	25-800			M + 2 ≤ P < D	5 6 8 10 12
	22					5 6 8 10 12 16
	25					5 6 8 10 12 16
	30					8 10 12 16 20
	35					8 10 12 16 20 24
	40	35-800				12 16 20 24
50					16 20 24	

Both Ends Tapped, h7

Part Number	0.1 mm Inc.			1 mm Inc.	M	
	Code	D _{h7}	L	E·F		P
MCF42	6	18-300				3
	8	18-400				3 4 5
	10	18-500				4 5 6
	12	20-600				5 6 8
	15	20-700				5 6 8 10
	20	25-800		1 ≤ E ≤ P × 6		5 6 8 10 12
	25			1 ≤ F ≤ P × 6		6 8 10 12 16
	30				M + 2 ≤ P < D	8 10 12 16 20
	35					8 10 12 16 20 24
	40	35-800				12 16 20 24 30
	50					16 20 24 30

Both Ends Tapped, h9

Part Number	0.1 mm Inc.			1 mm Inc.	M	
	Code	D _{h9}	L	E·F		P
MCF62	6	18-300				3
	8	18-400				3 4 5
	10	18-500				4 5 6
	12	20-600				5 6 8
	15	20-700				5 6 8 10
	20	25-800		1 ≤ E ≤ P × 6		5 6 8 10 12
	25			1 ≤ F ≤ P × 6		5 6 8 10 12 16
	30				M + 2 ≤ P < D	8 10 12 16 20
	35	35-800				8 10 12 16 20 24

with Retaining Ring Groove

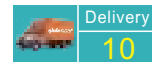
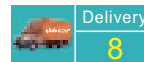


Part Number	D	L	E·F	A·B	P·Q
MCD02	6	18-300	E ≤ P × 6	When P·Q ≤ 6	2 3 4 5
	8	18-400	F ≤ Q × 6	AB ≥ 2	3 ≤ P·Q < D

MCD02—D6—L150—E15—F15—A5—B5—P5—Q5



Discount price	
Per	1~4
Price	100%
	5~
	Additional quotation



① No Surface Treatment

② with Surface Treatment

Both Ends Tapped, g6

Part Number	D	L	E·F	P	M
MCF02	6	18-400	1 ≤ E ≤ P × 6	M + 2 ≤ P < D	3 4 5
	10	18-500	1 ≤ F ≤ P × 6		4 5 6

MCF02—D8—L150—E10—F10—P7—M4



Code	Spec.																																										
LC	Changes L Dimension Tolerance [Ordering Code] LC □ L<400 changes to L±0.05 □ L≥400 changes to L±0.1 □ Only applicable with Retaining Ring Groove.																																										
LA() LB()	Adds 1 Set Screw Flat. LA() [Ordering Code] LA10-G3 [Ordering Code] LB10-J3-Y10-X3 □ 1 mm Increment <table border="1"><tr><th>D</th><th>h</th></tr><tr><td>6-17</td><td>1</td></tr><tr><td>18-40</td><td>2</td></tr><tr><td>50</td><td>3</td></tr></table> □ G·J·X ≤ 50.	D	h	6-17	1	18-40	2	50	3																																		
D	h																																										
6-17	1																																										
18-40	2																																										
50	3																																										
KE()	Adds a Wrench Flat [Ordering Code] KE10 □ 1 mm Increment □ Only applicable with Retaining Ring Groove. <table border="1"> <thead> <tr> <th>D</th><th>W</th><th>V₁</th><th>D</th><th>W</th><th>V₁</th> </tr> </thead> <tbody> <tr><td>6</td><td>5</td><td></td><td>20-22</td><td>17</td><td>12</td></tr> <tr><td>8</td><td>7</td><td>10</td><td>25</td><td>22</td><td></td></tr> <tr><td>10</td><td>8</td><td></td><td>30</td><td>27</td><td></td></tr> <tr><td>12-13</td><td>10</td><td></td><td>35</td><td>30</td><td>16</td></tr> <tr><td>15-16</td><td>13</td><td>12</td><td>40</td><td>36</td><td></td></tr> <tr><td>17-18</td><td>14</td><td></td><td>50</td><td>41</td><td>20</td></tr> </tbody> </table>	D	W	V ₁	D	W	V ₁	6	5		20-22	17	12	8	7	10	25	22		10	8		30	27		12-13	10		35	30	16	15-16	13	12	40	36		17-18	14		50	41	20
D	W	V ₁	D	W	V ₁																																						
6	5		20-22	17	12																																						
8	7	10	25	22																																							
10	8		30	27																																							
12-13	10		35	30	16																																						
15-16	13	12	40	36																																							
17-18	14		50	41	20																																						

Code	Spec.															
KB() KC()	Adds 1 Keyway. KB() [Ordering Code] KB50-S10 [Ordering Code] KC50-C8-K40-T10 □ 1 mm Increment □ S·T·C ≤ 100. □ If 3 keyways are required, use both KB() and KC(). □ For keyway details, please refer to the product in production.															
PA() QA()	Adds a Keyway on the Shaft End P (Q) [Ordering Code] PA10 □ 1 mm Increment □ PA·QA≥50, PA·QA≥E, P(Q)≤5 Not applicable. □ For keyway details, please refer to the product in production. □ Only applicable with Retaining Ring Groove.															
KD()	Adds a Slit Cam Groove [Ordering Code] KD10 □ 1 mm Increment □ Applicable to the right table D specifications. <table border="1"> <thead> <tr> <th>D</th><th>d</th><th>V₂</th> </tr> </thead> <tbody> <tr><td>6</td><td>5</td><td></td></tr> <tr><td>8</td><td>7</td><td>4</td></tr> <tr><td>10</td><td>8</td><td></td></tr> <tr><td>12</td><td>10</td><td>5</td></tr> </tbody> </table>	D	d	V ₂	6	5		8	7	4	10	8		12	10	5
D	d	V ₂														
6	5															
8	7	4														
10	8															
12	10	5														
MA() MB()	Adds a Retaining Ring Groove (Applicable retaining rings are included.) [Ordering Code] MA10-MB10 □ 1 mm Increment □ MA(MB)=4~L/2 □ For retaining ring groove details, please refer to the product introduction.															



Optional Processing(with Retaining Ring Groove)

Part Number	L	E-F	A-B	P-Q	Optional Processing Code
[Code] D					
MCD02	<6> 18-300	E≤P×6 FSG×6	When P·Q≤6 A·B≥2	2 3 4 <5> 3≤P·Q<D	<C> LA() ...
	8 18-400				

MCD02—D6—L150—E15—F15—A5—B5—P5—Q5—LC

Optional Processing(Both Ends Tapped, g6)

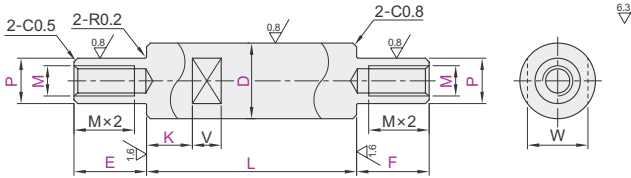
Part Number	L	E-F	P	M	Optional Processing Code
[Code] D					
MCF02	<8> 18-400	1≤E≤P×6 12≤F×6	M+2SP×D	3<D>5 4 5 6	LA() KE10...
	10 18-500				

MCF02—D8—L150—E10—F10—P7—M4—KE10

Rotary Shafts

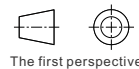
Both Ends Tapped, with Wrench Flats Both Ends Stepped

Code	Type	Tolerance D P	Material		Surface Treatment	
			GB	Equiv.		
MCF12	Both Ends Tapped with Wrench Flats	g6	g6	45	S45C	Electroless Nickel Plating
MCF26				0Cr18Ni9	SUS304	—
MCF52		h7	h7	45	S45C	Electroless Nickel Plating
MCF56				0Cr18Ni9	SUS304	—
MCF72		h9	g6	45	S45C	Electroless Nickel Plating
MCF76				0Cr18Ni9	SUS304	—
MCF92		h7	h7	45	S45C	Electroless Nickel Plating
MCF96				0Cr18Ni9	SUS304	—



D-P	g6	h7	h9
3.1~6	-0.004 -0.012	0 -0.012	0 -0.030
6.1~10	-0.005 -0.014	0 -0.015	0 -0.036
10.1~18	-0.006 -0.017	0 -0.018	0 -0.043
18.1~30	0 -0.007 -0.020	0 -0.021	0 -0.052
30.1~50	-0.009 -0.025	0 -0.025	0 -0.062

Roundness, straightness, perpendicularity and coaxiality, please refer to the introduction of shaft products.



g6

Part Number	0.1 mm Inc.		1 mm Inc.		M	Wrench Flats K(1 mm Inc.)	W	V
Code	D _{h6}	L	E-F	P				
MCF12	6	18.0~300.0		5	3		5	7
	8	18.0~400.0			3 4 5		7	10
	10	18.0~500.0			4 5 6		8	
	12	20.0~600.0			5 6 8		10	
	13	20.0~600.0			5 6 8		11	
	15	20.0~700.0			5 6 8 10		13	
	16	20.0~700.0			5 6 8 10		14	
	17	20.0~700.0	1≤E≤P×6	M+2≤P<D	5 6 8 10 12	K=0 or K≥1	14	12
	18	20.0~700.0	1≤F≤P×6		5 6 8 10 12		15	
	MCF26	20	25.0~800.0			5 6 8 10 12		17
22		25.0~800.0			5 6 8 10 12 16		19	
25		25.0~800.0			5 6 8 10 12 16		22	
30		25.0~800.0			8 10 12 16 20		27	16
35		25.0~800.0			8 10 12 16 20 24		30	
40		35.0~800.0			12 16 20 24		36	20
50		35.0~800.0			16 20 24		41	

h7

Part Number	0.1 mm Inc.		1 mm Inc.		M	Wrench Flats K(1 mm Inc.)	W	V	
Code	D _{h7}	L	E-F	P					
MCF52	6	18.0~300.0			3		5	7	
	8	18.0~400.0			3 4 5		7	10	
	10	18.0~500.0			4 5 6		8		
	12	20.0~600.0			5 6 8		10		
	15	20.0~700.0	1≤E≤P×6	M+2≤P<D	5 6 8 10	K=0 or K≥1	13	12	
	20	20.0~700.0	1≤F≤P×6		5 6 8 10 12		17		
	MCF56	25	25.0~800.0			6 8 10 12 16		22	
		30	25.0~800.0			8 10 12 16 20		27	16
		35	25.0~800.0			8 10 12 16 20 24		30	
		40	35.0~800.0			12 16 20 24 30		36	20
50		35.0~800.0			16 20 24 30		41		

h9

Part Number	0.1 mm Inc.		1 mm Inc.		M	Wrench Flats K(1 mm Inc.)	W	V	
Code	D _{h9}	L	E-F	P					
MCF72	6	18.0~300.0			3		5	7	
	8	18.0~400.0			3 4 5		7	10	
	10	18.0~500.0			4 5 6		8		
	12	20.0~600.0			5 6 8		10		
	15	20.0~700.0	1≤E≤P×6	M+2≤P<D	5 6 8 10	K=0 or K≥1	13	12	
	20	20.0~700.0	1≤F≤P×6		5 6 8 10 12		17		
	MCF92	25	25.0~800.0			5 6 8 10 12		17	
		30	25.0~800.0			5 6 8 10 12 16		22	
		35	25.0~800.0			8 10 12 16 20		27	16
		40	35.0~800.0			8 10 12 16 20 24		30	



Optional Processing

Code	Spec.															
LA()	<p>Adds 1 Set Screw Flat. LA()</p> <p>Ordering Code LA10-G3</p> <p>Ordering Code LB10-J3-Y10-X3</p> <p>1 mm Increment</p> <p>G-J-X ≤ 50.</p>															
LB()	<p>Adds 2 Set Screw Flats. LB()</p> <table border="1"> <thead> <tr> <th>D</th> <th>h</th> </tr> </thead> <tbody> <tr> <td>6-17</td> <td>1</td> </tr> <tr> <td>18-40</td> <td>2</td> </tr> <tr> <td>50</td> <td>3</td> </tr> </tbody> </table>	D	h	6-17	1	18-40	2	50	3							
D	h															
6-17	1															
18-40	2															
50	3															
MA()	<p>Adds a Retaining Ring Groove (Applicable retaining rings are included.)</p> <p>Ordering Code MA10-MB10</p> <p>1 mm Increment</p> <p>MA(MB)=4-L/2</p> <p>For retaining ring groove details, please refer to the product introduction.</p>															
KB()	<p>Adds 1 Keyway. KB()</p> <p>Ordering Code KB50-S10</p> <p>Ordering Code KC50-C8-H40-T10</p> <p>1 mm Increment</p> <p>S-T-C ≤ 100.</p> <p>If 3 keyways are required, use both KB() and KC().</p> <p>For keyway details, please refer to the product in production.</p>															
KC()	<p>Adds 2 Keyways. KC()</p>															
KD()	<p>Adds a Slit Cam Groove</p> <p>Ordering Code KD10</p> <p>1 mm Increment</p> <p>Only applicable to D=6-12.</p> <table border="1"> <thead> <tr> <th>D</th> <th>d</th> <th>V₂</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>5</td> <td>4</td> </tr> <tr> <td>8</td> <td>7</td> <td></td> </tr> <tr> <td>10</td> <td>8</td> <td>5</td> </tr> <tr> <td>12</td> <td>10</td> <td></td> </tr> </tbody> </table>	D	d	V ₂	6	5	4	8	7		10	8	5	12	10	
D	d	V ₂														
6	5	4														
8	7															
10	8	5														
12	10															

Rotary Shafts A4



Please order as shown

Part Number	D	L	E-F	P	M	K
MCF12	8	18-400	1≤E≤P×6	M+2≤P<D	3<4>5	K=0 or K<
	10	18-500	1≤F≤P×6		4 5 6	

MCF12—D8—L150—E10—F10—P7—M4—K10

Optional Processing

Part Number	D	L	E-F	P	M	K	Optional Processing Code
MCF12	8	18-400	1≤E≤P×6	M+2≤P<D	3<4>5	K=0 or K<	MA() MB()...
	10	18-500	1≤F≤P×6		4 5 6		

MCF12—D8—L150—E10—F10—P7—M4—K10—MA10-MB10



Discount price	Per	1~4	5~
Price	100%	Additional quotation	

Delivery

8

No Surface Treatment

Delivery

10

with Surface Treatment

Both Ends Threaded, Standard

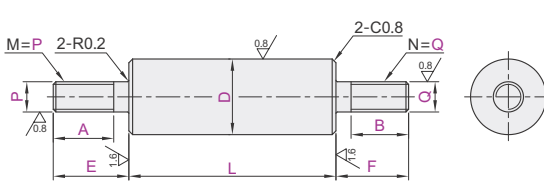
Both Ends Stepped

Rotary Shafts

Code	Type	Tolerance		Material		Surface Treatment		
		D	P-Q	GB	Equiv.			
MCK02	Both Ends Threaded	Standard	g6	g6	45	S45C	Electroless Nickel Plating	
MCK16					0Cr18Ni9	SUS304	—	
MCK42					45	S45C	Electroless Nickel Plating	
MCK46					0Cr18Ni9	SUS304	—	
MCK61			h7	g6	h7	45	S45C	Electroless Nickel Plating
MCK66						0Cr18Ni9	SUS304	—
MCK82						45	S45C	Electroless Nickel Plating
MCK86						0Cr18Ni9	SUS304	—

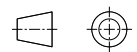


self made



6.3/

D-P-Q	g6	h7	h9
3	-0.002	0	0
3.1~6	-0.004	0	0
6.1~10	-0.005	0	0
10.1~18	-0.006	-0.018	0
18.1~30	-0.007	0	0
30.1~50	-0.008	-0.025	-0.062



The first perspective

Ⓛ Circularity, straightness, perpendicularity and concentricity, please refer to the introduction of shaft products.

Ⓛ g6

Part Number	0.1 mm Inc.		1 mm Inc.		P-Q	
	Code	D _{g6}	L	E-F		
MCK02	6	18.0~300.0			3 4 5	
	8	18.0~400.0			3 4 5 6	
	10	18.0~500.0			4 5 6 8	
	12	20.0~600.0			5 6 8 10	
	13			When P≤6	When Q≤6	5 6 8 10
	15	20.0~700.0		A≤E2	B≤F2	5 6 8 10 12
	16					5 6 8 10 12
	17		6≤F≤Q×7	When P=8, 10	When Q=8, 10	5 6 8 10 12
	18		6≤E≤P×6	A≤E3	B≤F3	5 6 8 10 12
	20	25.0~800.0				6 8 10 12 16
MCK16	22				6 8 10 12 16	
	25				8 10 12 16 20	
	30				8 10 12 16 20 24	
	35				10 12 16 20 24 30	
	40	35.0~800.0			12 16 20 24 30	
	50				16 20 24 30	

Ⓛ h7

Part Number	0.1 mm Inc.		1 mm Inc.		P-Q	
	Code	D _{h7}	L	E-F		
MCK42	6	18.0~300.0			3 4 5	
	8	18.0~400.0			3 4 5 6	
	10	18.0~500.0			4 5 6 8	
	12	20.0~600.0			5 6 8 10	
	15	20.0~700.0			5 6 8 10 12	
	20			When P≤6	When Q≤6	6 8 10 12 16
	25	25.0~800.0		A≤E2	B≤F2	8 10 12 16 20
	30		6≤E≤P×6	When P=8, 10	When Q=8, 10	8 10 12 16 20 24
	35		6≤F≤Q×7	A≤E3	B≤F3	10 12 16 20 24 30
	40	35.0~800.0				12 16 20 24 30
50					16 20 24 30	

Ⓛ h9

Part Number	0.1 mm Inc.		1 mm Inc.		P-Q	
	Code	D _{h9}	L	E-F		
MCK61	6	18.0~300.0			3 4 5	
	8	18.0~400.0			3 4 5 6	
	10	18.0~500.0			4 5 6 8	
	12	20.0~600.0			5 6 8 10	
	15	20.0~700.0			5 6 8 10 12	
	20			When P≤6	When Q≤6	6 8 10 12 16
	25	25.0~800.0		A≤E2	B≤F2	8 10 12 16 20
	30		6≤E≤P×6	When P=8, 10	When Q=8, 10	8 10 12 16 20 24
	35		6≤F≤Q×7	A≤E3	B≤F3	10 12 16 20 24 30
	35	35.0~800.0				12 16 20 24 30



Please order as shown

Part Number	D	L	EF	A	B	P-Q
MCK02	6	18-300	6≤E≤P×6	When P≤6	When Q≤6	3 4 5
MCK02	8	18-400	6≤E≤P×6	A≤E2	B≤F2	3 4 5 6
MCK02	10	18-500	6≤E≤P×6	A≤E2	B≤F2	4 5 6 8

MCK02-D6-L30-E20-F20-A5-B15-P5-Q5

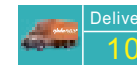
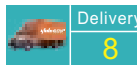
Ⓛ Optional Processing

Part Number	D	L	EF	A	B	P-Q	Optional Processing Code
MCK02	6	18-300	6≤E≤P×6	When P≤6	When Q≤6	3 4 5	MC NC...
MCK02	8	18-400	6≤E≤P×6	A≤E2	B≤F2	3 4 5 6	MC NC...
MCK02	10	18-500	6≤E≤P×6	A≤E2	B≤F2	4 5 6 8	MC NC...

MCK02-D6-L30-E20-F20-A5-B15-P5-Q5-LC



Discount price	Per	1~4	5~
Price	100%	Additional quotation	



Ⓛ No Surface Treatment Ⓛ with Surface Treatment



Optional Processing

Code	Spec.	Ordering Code																																																																											
LC	Changes L Dimension Tolerance 	LC Ⓛ L<400 changes to L±0.05 L≥400 changes to L±0.1																																																																											
MC(NC)	Change the Thread to Fine Thread in the Right Table 	NC10 Ⓛ MC/NC <table border="1"> <thead> <tr> <th>D</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> </tr> <tr> <td>8</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> </tr> <tr> <td>10</td> <td>4</td> <td>5</td> <td>6</td> <td>8</td> </tr> <tr> <td>12</td> <td>5</td> <td>6</td> <td>8</td> <td>10</td> </tr> <tr> <td>15</td> <td>5</td> <td>6</td> <td>8</td> <td>10</td> </tr> <tr> <td>18</td> <td>6</td> <td>8</td> <td>10</td> <td>12</td> </tr> <tr> <td>20</td> <td>6</td> <td>8</td> <td>10</td> <td>12</td> </tr> <tr> <td>22</td> <td>6</td> <td>8</td> <td>10</td> <td>12</td> </tr> <tr> <td>25</td> <td>8</td> <td>10</td> <td>12</td> <td>16</td> </tr> <tr> <td>30</td> <td>8</td> <td>10</td> <td>12</td> <td>16</td> </tr> <tr> <td>35</td> <td>10</td> <td>12</td> <td>16</td> <td>20</td> </tr> <tr> <td>40</td> <td>10</td> <td>12</td> <td>16</td> <td>20</td> </tr> <tr> <td>50</td> <td>12</td> <td>16</td> <td>20</td> <td>24</td> </tr> <tr> <td>60</td> <td>16</td> <td>20</td> <td>24</td> <td>30</td> </tr> </tbody> </table> Ⓛ In selection, P/Q must be changed to MC/NC. Ⓛ In selection, P/Q and MC/NC must be the same size.	D	3	4	5	6	6	3	4	5	6	8	3	4	5	6	10	4	5	6	8	12	5	6	8	10	15	5	6	8	10	18	6	8	10	12	20	6	8	10	12	22	6	8	10	12	25	8	10	12	16	30	8	10	12	16	35	10	12	16	20	40	10	12	16	20	50	12	16	20	24	60	16	20	24	30
D	3	4	5	6																																																																									
6	3	4	5	6																																																																									
8	3	4	5	6																																																																									
10	4	5	6	8																																																																									
12	5	6	8	10																																																																									
15	5	6	8	10																																																																									
18	6	8	10	12																																																																									
20	6	8	10	12																																																																									
22	6	8	10	12																																																																									
25	8	10	12	16																																																																									
30	8	10	12	16																																																																									
35	10	12	16	20																																																																									
40	10	12	16	20																																																																									
50	12	16	20	24																																																																									
60	16	20	24	30																																																																									
PC(QC)	Changes the Threads on Shaft End P(Q) to Left-hand Thread. 	PC(QC) Ⓛ Cannot select MC (NC) at the same time.																																																																											
LA(LB)	Adds 1 Set Screw Flat. LA(L) Adds 2 Set Screw Flats. LB(L) 	LA10-G3 LB10-J3-Y10-X3 Ⓛ 1 mm Increment Ⓛ G-J-X≤50 <table border="1"> <thead> <tr> <th>D</th> <th>h</th> </tr> </thead> <tbody> <tr> <td>6-17</td> <td>1</td> </tr> <tr> <td>18-40</td> <td>2</td> </tr> <tr> <td>50</td> <td>3</td> </tr> </tbody> </table>	D	h	6-17	1	18-40	2	50	3																																																																			
D	h																																																																												
6-17	1																																																																												
18-40	2																																																																												
50	3																																																																												
KB(KC)	Adds 1 Keyway. KB(K) Adds 2 Keyways. KC(K) 	KB50-S10 KC50-C8-K40-T10 Ⓛ 1 mm Increment Ⓛ S·T·C ≤ 100. Ⓛ If 3 keyways are required, use both KB(K) and KC(K). Ⓛ For keyway details, please refer to the product introduction.																																																																											
PA(QA)	Adds a Keyway on the Shaft End P(Q). 	PA10(QA10) Ⓛ 1 mm Increment Ⓛ PA-QA≥50, PA-QA≥E-F, P-Q≤5 Not applicable. Ⓛ For keyway details, please refer to the product introduction.																																																																											
KD	Adds a Slit Cam Groove 	KD10 Ⓛ 1 mm Increment Ⓛ Only applicable to D=6-12. <table border="1"> <thead> <tr> <th>D</th> <th>d</th> <th>V2</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>5</td> <td>4</td> </tr> <tr> <td>8</td> <td>7</td> <td>4</td> </tr> <tr> <td>10</td> <td>8</td> <td>5</td> </tr> <tr> <td>12</td> <td>10</td> <td>5</td> </tr> </tbody> </table>	D	d	V2	6	5	4	8	7	4	10	8	5	12	10	5																																																												
D	d	V2																																																																											
6	5	4																																																																											
8	7	4																																																																											
10	8	5																																																																											
12	10	5																																																																											
MA(MB)	Adds a Retaining Ring Groove (Applicable retaining rings are included). 	MA10-MB10 Ⓛ 1 mm Increment Ⓛ MA(MB)=4-L/2 Ⓛ For retaining ring groove details, please refer to the product introduction.																																																																											

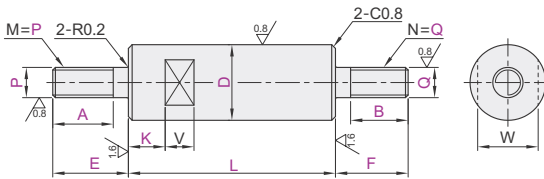
Rotary Shafts

Both Ends Threaded, with Wrench Flats Both Ends Stepped

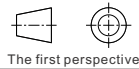
Code	Type	Tolerance		Material		Surface Treatment
		D	P-Q	GB	Equiv.	
MCK12	Both Ends Threaded with Wrench Flats	g6	g6	45	S45C	Electroless Nickel Plating
MCK26				0Cr18Ni9	SUS304	—
MCK52				0Cr18Ni9	SUS304	—
MCK72		h7	h7	45	S45C	Electroless Nickel Plating
MCK92				0Cr18Ni9	SUS304	—
MCK96	h9	h7	45	S45C	Electroless Nickel Plating	
				0Cr18Ni9	SUS304	—



self made



D-P-Q	g6	h7	h9
3	-0.002 -0.008	0 -0.010	0 -0.025
3.1~6	-0.004 -0.012	0 -0.012	0 -0.030
6.1~10	-0.005 -0.014	0 -0.015	0 -0.036
10.1~18	-0.006 -0.017	0 -0.018	0 -0.043
18.1~30	-0.007 -0.020	0 -0.021	0 -0.052
30.1~50	-0.008 -0.025	0 -0.025	0 -0.062



The first perspective

Ⓛ Circularity, straightness, perpendicularity and concentricity, please refer to the introduction of shaft products.

g6						K 1 mm Inc.		
Part Number	0.1 mm Inc.		1 mm Inc.		P-Q	Wrench Flats		
Code	D _{g6}	L	E-F	A		B	K	W
MCK12	6	18~300			3 4 5			5
	8	18~400			3 4 5 6			7 10
	10	18~500			4 5 6 8			8
	12	20~600		When P≤6	5 6 8 10			10
	13			When Q≤6	5 6 8 10			11
	15	20~700		AsE-2	5 6 8 10 12			13
	16			BsF-2	5 6 8 10 12			14
MCK26	17		6S≤P×6	When P=8, 10	5 6 8 10 12			12
	18		6S≤F×Q×7	When Q=8, 10	5 6 8 10 12			15
	20	25~800		AsE-3	6 8 10 12 16			17
	22			BsF-3	6 8 10 12 16			19
	25			When P≥12	8 10 12 16 20			22
	30			When Q≥12	8 10 12 16 20 24			27
	35			AsE-5	10 12 16 20 24 30			30
	40	35~800		BsF-5	12 16 20 24 30			36
	50				16 20 24 30			41

h7						K 1 mm Inc.		
Part Number	0.1 mm Inc.		1 mm Inc.		P-Q	Wrench Flats		
Code	D _{h7}	L	E-F	A		B	K	W
MCK52	6	18~300			3 4 5			5
	8	18~400		When P≤6	3 4 5 6			7 10
	10	18~500		When Q≤6	4 5 6 8			8
	12	20~600		AsE-2	5 6 8 10			10
	15	20~700		BsF-2	5 6 8 10 12			13
	20		6S≤P×6	When P=8, 10	6 8 10 12 16			12
	25	25~800	6S≤F×Q×7	When Q=8, 10	6 8 10 12 16 20			17
	30			When P≥12	8 10 12 16 20 24			27
	35			When Q≥12	10 12 16 20 24 30			30
	40	35~800		AsE-5	12 16 20 24 30			36
	50			BsF-5	16 20 24 30			41

h9						K 1 mm Inc.		
Part Number	0.1 mm Inc.		1 mm Inc.		P-Q	Wrench Flats		
Code	D _{h9}	L	E-F	A		B	K	W
MCK72	6	18~300			3 4 5			5
MCK92	8	18~400		When P≤6	3 4 5 6			7 10
MCK96	10	18~500		When Q≤6	4 5 6 8			8
	12	20~600		AsE-2	5 6 8 10			10
	15	20~700		BsF-2	5 6 8 10 12			13
	20		6S≤P×6	When P=8, 10	6 8 10 12 16			12
	25	25~800	6S≤F×Q×7	When Q=8, 10	6 8 10 12 16 20			17
	30			When P≥12	8 10 12 16 20 24			27
	35	35~800		When Q≥12	10 12 16 20 24 30			30
				AsE-5	12 16 20 24 30			36

Part Number	D	L	EF	A	B	P-Q	K
MCK12	6	18~300	6S≤P×6	When P≤6	When Q≤6	3 4 5	K=0 or K≥1
	8	18~400	6S≤P×6			3 4 5 6	
	10	18~500	6S≤P×7			4 5 6 8	

MCK12—D6—L30—E20—F20—A5—B15—P5—Q5—K0

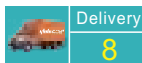
Optional Processing

Part Number	D	L	EF	A	B	P-Q	K	Optional Processing Code
MCK12	6	18~300	6S≤P×6	When P≤6	When Q≤6	3 4 5	K=0 or K≥1	MC NC...
	8	18~400	6S≤P×6			3 4 5 6		
	10	18~500	6S≤P×7			4 5 6 8		

MCK12—D6—L30—E20—F20—A5—B15—P5—Q5—K0—LC



Per Price	1~4	5~
Price	100%	Additional quotation



Ⓛ No Surface Treatment

Ⓛ with Surface Treatment

Code	Spec.																										
LC	<p>Changes L Dimension Tolerance</p> <p>[Ordering Code] LC</p> <p>Ⓛ L<400 changes to L±0.05 L≥400 changes to L±0.1</p>																										
MC() NC()	<p>Change the Thread to Fine Thread in the Right Table</p> <p>[Ordering Code] NC10</p> <table border="1"> <thead> <tr> <th>D</th> <th>MC/NC</th> </tr> </thead> <tbody> <tr><td>6</td><td>3 4 5</td></tr> <tr><td>8</td><td>3 4 5 6</td></tr> <tr><td>10</td><td>4 5 6 8</td></tr> <tr><td>12</td><td>5 6 8 10</td></tr> <tr><td>15</td><td>5 6 8 10 12</td></tr> <tr><td>18</td><td>6 8 10 12 15</td></tr> <tr><td>20</td><td>6 8 10 12 15 18</td></tr> <tr><td>25</td><td>8 10 12 16 20</td></tr> <tr><td>30</td><td>8 10 12 16 20 24</td></tr> <tr><td>35</td><td>10 12 16 20 24 30</td></tr> <tr><td>40</td><td>12 16 20 24 30 36</td></tr> <tr><td>50</td><td>16 20 24 30 36 41</td></tr> </tbody> </table> <p>Ⓛ In selection, P/Q must be changed to MC/NC. Ⓛ In selection, P/Q and MC/NC must be the same size.</p>	D	MC/NC	6	3 4 5	8	3 4 5 6	10	4 5 6 8	12	5 6 8 10	15	5 6 8 10 12	18	6 8 10 12 15	20	6 8 10 12 15 18	25	8 10 12 16 20	30	8 10 12 16 20 24	35	10 12 16 20 24 30	40	12 16 20 24 30 36	50	16 20 24 30 36 41
D	MC/NC																										
6	3 4 5																										
8	3 4 5 6																										
10	4 5 6 8																										
12	5 6 8 10																										
15	5 6 8 10 12																										
18	6 8 10 12 15																										
20	6 8 10 12 15 18																										
25	8 10 12 16 20																										
30	8 10 12 16 20 24																										
35	10 12 16 20 24 30																										
40	12 16 20 24 30 36																										
50	16 20 24 30 36 41																										
PC QC	<p>Changes the Threads on Shaft End P(Q) to Left-hand Thread.</p> <p>[Ordering Code] PC(QC)</p> <p>Ⓛ Cannot select MC (NC) at the same time.</p>																										
LA() LB()	<p>Adds 1 Set Screw Flat. LA()</p> <p>[Ordering Code] LA10-G3</p> <p>Adds 2 Set Screw Slats. LB()</p> <p>[Ordering Code] LB10-J3-Y10-X3</p> <p>Ⓛ 1 mm Inc.</p> <p>Ⓛ G-J-X ≤ 50</p> <table border="1"> <thead> <tr> <th>D</th> <th>h</th> </tr> </thead> <tbody> <tr><td>6~17</td><td>1</td></tr> <tr><td>18~40</td><td>2</td></tr> <tr><td>50</td><td>3</td></tr> </tbody> </table>	D	h	6~17	1	18~40	2	50	3																		
D	h																										
6~17	1																										
18~40	2																										
50	3																										
KB() KC()	<p>Adds 1 Keyway. KB()</p> <p>[Ordering Code] KB50-S10</p> <p>Adds 2 Keyways. KC()</p> <p>[Ordering Code] KC50-C8-H40-T10</p> <p>Ⓛ 1 mm Inc.</p> <p>Ⓛ S-T-C ≤ 100.</p> <p>Ⓛ If 3 keyways are required, use both KB() and KC().</p> <p>Ⓛ For keyway details, please refer to the product in production</p>																										
PA() QA()	<p>Adds a Keyway on the Shaft End P(Q).</p> <p>[Ordering Code] PA10(QA10)</p> <p>Ⓛ 1 mm Inc.</p> <p>Ⓛ PA-QA≥50, PA-QA≥E-F, P-Q≤5 Not applicable.</p> <p>Ⓛ For keyway details, please refer to the product in production.</p>																										
KD()	<p>Adds a Slit Cam Groove</p> <p>[Ordering Code] KD10</p> <p>Ⓛ 1 mm Inc.</p> <p>Ⓛ Only applicable to D=6~12.</p> <table border="1"> <thead> <tr> <th>D</th> <th>d</th> <th>V2</th> </tr> </thead> <tbody> <tr><td>6</td><td>5</td><td>4</td></tr> <tr><td>8</td><td>7</td><td>4</td></tr> <tr><td>10</td><td>8</td><td>5</td></tr> <tr><td>12</td><td>10</td><td>5</td></tr> </tbody> </table>	D	d	V2	6	5	4	8	7	4	10	8	5	12	10	5											
D	d	V2																									
6	5	4																									
8	7	4																									
10	8	5																									
12	10	5																									
MA() MB()	<p>Adds a Retaining Ring Groove. (Applicable retaining rings are included.)</p> <p>[Ordering Code] MA10-MB10</p> <p>Ⓛ 1 mm Inc.</p> <p>Ⓛ MA(MB)=4-L/2</p> <p>Ⓛ For retaining ring groove details, please refer to the product introduction.</p>																										