

Collet Chuck

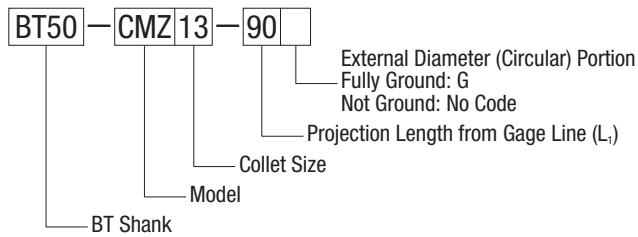
Precision Small Bore Collet Chuck “μ-ACE”/CMZ



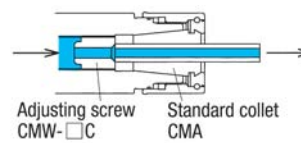
- High accuracy and high rigidity
- Applicable to high rotation speeds

Center-through

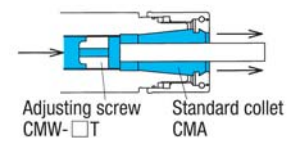
Ordering Instructions



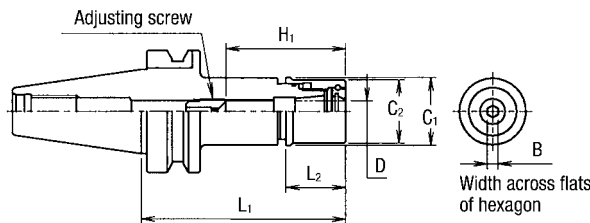
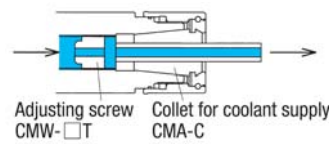
Tool-through Applications
(Using tool with oil holes)



Collet-through Applications
(Using tool without oil holes)



Tool-through Applications
(Using tool with oil holes)



(Unit: mm)

Code No. 390	Model No.	Chucking Bore D	C	L ₁	H ₁	C ₁	C ₂	L ₂	B	φW	Applicable Collet	Tightening Torque (N·m)	Applicable Spanner	Weight (kg)	Allowable Spindle Speed (min ⁻¹)
993581	BT30-CMZ6-45	φ0.75~6	20	45	21~40	20.6	20	19.5	2	2.5	CMA 6	5.9	CMGS 6	0.5	30,000
993582	-60			60										0.5	
993583	-90			90										0.6	
993584	-CMZ8-60	φ1~8	25	60	26~45	25.6	25	22.5	2	2.5	CMA 8	11.8	CMGS 8	0.5	
993585	-90			90										0.6	
993586	-CMZ10-60	φ2~10	30	60	34~50	30.6	30	24	2	2.5	CMA10	17.6	CMGS10	0.6	
993587	-90			90										0.7	
993588	-CMZ13-60	φ2~13	35	60	38~60	35.6	35	27.5	4	5	CMA13	24.5	CMGS13	0.6	
993589	-90			90										0.9	
993590	-CMZ16-60	φ6~16	43	60	42~60	43.6	43	27.5	4	5.5	CMA16	35.3	CMGS16	0.7	
993591	-90			90										1.1	
993592	-CMZ20-60	φ6~20	46	60	45~48	46.6	46	27.5	4	9.5	CMA20	39.2	CMGS20	0.8	
993593	-90			90										1.1	

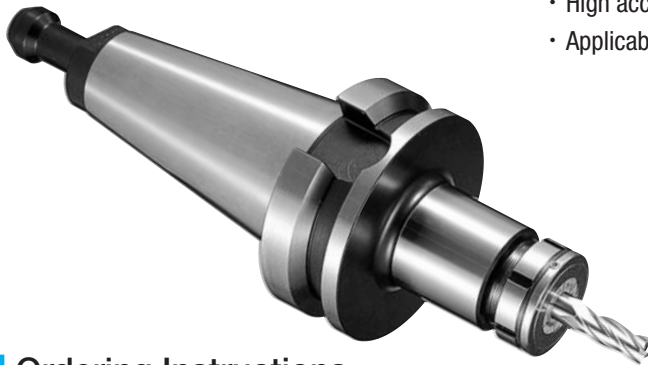
															(Unit: mm)
Code No. 390	Model No.	Chucking Bore D	C	L ₁	H ₁	C ₁	C ₂	L ₂	B	φW	Applicable Collet	Tightening Torque (N·m)	Applicable Spanner	Weight (kg)	Allowable Spindle Speed (min ⁻¹)
993594	BT40-CMZ6- 60	φ0.75~6	20	60	21~40	20.6	20	19.5	2	2.5	CMA6	5.9	CMGS6	1.1	30,000
993595	- 90			90										1.2	
993596	-120			120										1.2	
993597	-CMZ8- 60	φ1~8	25	60	26~45	25.6	25	22.5	2	2.5	CMA8	11.8	CMGS8	1.2	
993598	- 90			90										1.2	
993599	-120			120										1.3	
993600	-CMZ10- 60	φ2~10	30	60	34~50	30.6	30	24	2	2.5	CMA10	17.6	CMGS10	1.2	
993601	- 90			90										1.3	
993602	-120			120										1.5	
993603	-CMZ13- 60	φ2~13	35	60	38~60	35.6	35	27.5	4	5	CMA13	24.5	CMGS13	1.2	
993604	- 90			90										1.5	
993605	-120			120										1.7	
993606	-CMZ16- 60	φ6~16	43	60	42~65	43.6	43	27.5	4	5.5	CMA16	35.3	CMGS16	1.3	
993607	- 90			90										1.7	
993608	-120			120										2.1	
993609	-CMZ20- 60	φ6~20	46	60	43~65	46.6	46	27.5	4	9.5	CMA20	39.2	CMGS20	1.3	
993610	- 90			90										1.8	
993611	-120			120										2.2	
993612	BT50-CMZ6- 90	φ0.75~6	20	90	21~40	20.6	20	19.5	2	2.5	CMA6	5.9	CMGS6	3.8	
993613	-120			120										3.8	
993614	-CMZ8- 90			φ1~8										25	
993615	-120	120	3.9												
993616	-CMZ10- 90	φ2~10	30		90	34~50	30.6	30	24	2	2.5	CMA10	17.6		
993617	-120			120	4.1										
993618	-CMZ13- 90			φ2~13	35									90	
993619	-120	120	4.2												
993620	-CMZ16- 90	φ6~16	43			90	42~65	43.6	43	27.5	4	5.5	CMA16	35.3	
993621	-120			120	4.5										
993622	-CMZ20- 90			φ6~20	46	90									
993623	-120	120	4.6												

- The nut and coolant specification adjusting screw (CMW-□C) are incorporated in the body.
- The coolant specification adjusting screw can not be used with tools that have a shank bore less than diameter W. In this situation, the small bore adjusting screw (CMW-□S) should be ordered separately.
- When using a stub drill, the adjusting screw (CMW-□T for Stub Drills) should be ordered separately.
- Collets and spanners are not included and should be ordered separately.

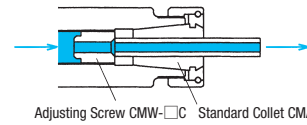
Collet Chuck

Precision Small Bore Collet Chuck “μ-ACE”/CMA

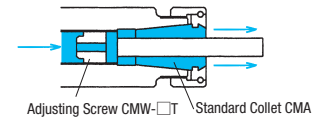
- High accuracy and high rigidity
- Applicable to high rotation speeds



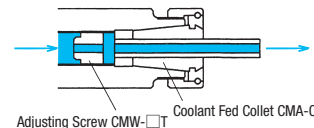
Tool-through Applications
(Using tool with oil holes)



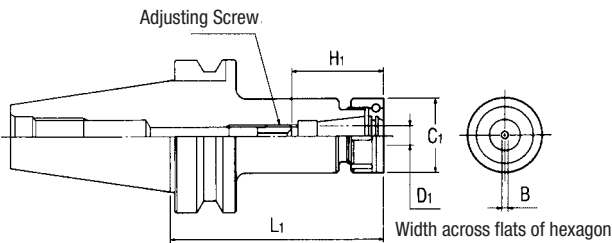
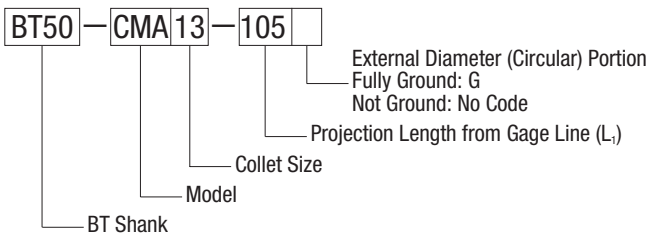
Collet-through Applications
(Using tool without oil holes)



Tool-through Applications
(Using tool with oil holes)



Ordering Instructions



(Unit: mm)

Code No. 390	Model No.	Chucking Bore D ₁	L ₁	H ₁	C ₁	B	φW	Weight (kg)	Applicable Collet
993001	BT30-CMA6-45	φ 0.75~φ 6	45	19~40	20	2	2.5	0.5	CMA6
993535	-60		60					0.5	
993002	-90		90					0.6	
993382	-CMA8-45	φ 1.0~φ 8	45	25~45	24	2	2.5	0.5	CMA8
993536	-60		60					0.5	
993383	-90		90					0.6	
993003	-CMA10-45	φ 2.0~φ 10	45	32~50	30	2	2.5	0.5	CMA10
993537	-60		60					0.6	
993004	-90		90					0.7	
993005	-CMA13-45	φ 2.0~φ 13	45	36~48	35	4	5	0.5	CMA13
993538	-60		60					0.6	
993006	-90		90					0.9	
993007	-CMA16-45	φ 6~φ 16	45	40~48	43	4	5.5	0.6	CMA16
993539	-60		60					0.7	
993008	-90		90					1.1	
993009	-CMA20-60	φ 6~φ 20	60	43~48	46	4	9.5	0.8	CMA20
993010	-90		90					1.1	
993011	BT40-CMA6-60	φ 0.75~φ 6	60	19~40	20	2	2.5	1.1	CMA6
993339	-90		90					1.2	
993012	-120		120					1.2	
993540	-150		150					1.3	
-	-200		200					1.3	
993384	-CMA8-60	φ 1.0~φ 8	60	25~45	24	2	2.5	1.2	CMA8
993385	-90		90					1.2	
993386	-120		120					1.3	
993387	-150		150					1.4	
993388	-200		200					1.5	

(Unit: mm)

Code No. 390	Model No.	Chucking Bore D ₁	L ₁	H ₁	C ₁	B	φW	Weight (kg)	Applicable Collet
993013	BT40-CMA10-60	φ2.0~φ10	60	32~50	30	2	2.5	1.2	CMA10
993340	-90		90					1.3	
993014	-120		120					1.5	
993541	-150		150					1.6	
993542	-200		200					1.9	
993015	-CMA13-60	φ2.0~φ13	60	36~60	35	4	5	1.2	CMA13
—	-90		90					1.4	
993016	-105		105					1.5	
—	-120		120					1.6	
993017	-135		135					1.7	
—	-150		150					1.8	
993534	-165		165					1.9	
993543	-200		200					2.1	
993018	-CMA16-60	φ6~φ16	60	40~65	43	4	5.5	1.3	CMA16
—	-90		90					1.6	
993019	-105		105					1.7	
—	-120		120					1.9	
993020	-135		135					2.1	
—	-150		150					2.2	
993544	-165		165					2.4	
993545	-200		200					2.7	
993021	-CMA20-60	φ6~φ20	60	43~65	46	4	9.5	1.3	CMA20
—	-90		90					1.6	
993022	-105		105					1.8	
—	-120		120					2	
993023	-135		135					2.2	
—	-150		150					2.4	
993546	-165		165					2.6	
993547	-200		200					3	
993024	BT50-CMA6-90	φ0.75~φ6	90	19~40	20	2	2.5	3.8	CMA6
993025	-120		120					3.8	
993026	-165		165					3.8	
—	-200		200					3.9	
993389	-CMA8-90	φ1.0~φ8	90	25~45	24	2	2.5	3.9	CMA8
993390	-120		120					3.9	
993391	-165		165					4.1	
993392	-200		200					4.2	
993027	-CMA10-90	φ2.0~φ10	90	32~50	30	2	2.5	3.9	CMA10
993028	-120		120					4.1	
993029	-165		165					4.3	
993548	-200		200					4.4	
993030	-CMA13-105	φ2.0~φ13	105	36~60	35	4	5	4.1	CMA13
993031	-135		135					4.2	
993032	-165		165					4.4	
993549	-200		200					4.6	
993033	-CMA16-105	φ6~φ16	105	40~65	43	4	5.5	4.3	CMA16
993034	-135		135					4.5	
993035	-165		165					4.8	
993550	-200		200					5.1	
993036	-CMA20-105	φ6~φ20	105	43~65	46	4	9.5	4.3	CMA20
993037	-135		135					4.6	
993038	-165		165					4.9	
993551	-200		200					5.3	

- The nut and coolant specification adjusting screw (CMW-□C) are incorporated in the body.
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- When using a stub drill, the adjusting screw (CMW-□T for Stub Drills) should be ordered separately.
- Collets and spanners are not included and should be ordered separately.

Accessories for “μ-ACE”

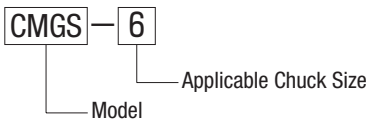
Circle Wrench/CMGS

• This is a wrench for exclusive use with μ-ACE/CMZ.



Model No.	Applicable Chuck
CMGS- 6	CMZ 6
CMGS- 8	CMZ 8
CMGS-10	CMZ10
CMGS-13	CMZ13
CMGS-16	CMZ16
CMGS-20	CMZ20

Ordering Instructions



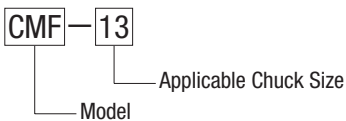
Spanner/CMF

- This is the spanner for "μ-ACE".
- The spanner is not included, and the required number should be ordered separately.



Code No. 392	Model No.	Applicable Chuck	Recommended Tightening Torque (N·m)
993291	CMF- 6	CMA 6	5.9
993394	CMF- 8	CMA 8	11.8
993292	CMF-10	CMA10	17.6
993293	CMF-13	CMA13	24.5
993294	CMF-16	CMA16	35.3
993295	CMF-20	CMA20	39.2

Ordering Instructions



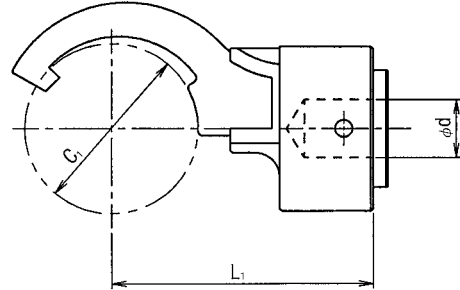
CAUTION

For the nut tightening torque, be sure not to exceed a torque 1.3 times the recommended tightening torques in the above table.

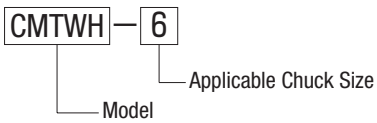
Accessories for “μ-ACE”

Torque Wrench Exchangeable Head/CMTWH

- The exchangeable head is used in combination with a manual torque wrench to prevent over-torque during nut-tightening work.



Ordering Instructions



(Unit: mm)

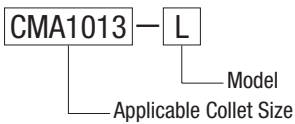
Code No. 392	Exchangeable Head Model No.	Applicable Chuck	C ₁	L ₁	d	Set Tightening Torque (N·m)	Applicable Torque Wrench Model Nos.	
							With Over-torque Prevention Function	Without Over-torque Prevention Function
993276	CMTWH-6	CMA6	20	44	10	5.9	YCL12N×10D	CL25N×10D PCL25N×10D
993277	CMTWH-8	CMA8	24			11.8	YCL23N×10D	
993278	CMTWH-10	CMA10	30			17.6		
993279	CMTWH-13	CMA13	35	53	12	24.5	YCL45N×12D	CL50N×12D PCL50N×12D
993280	CMTWH-16	CMA16	43			35.3		
993281	CMTWH-20	CMA20	46			39.2		

The manual torque wrenches described in the table above are manufactured by Tohnichi Co., Ltd.

Collet Removing Lever/CMA□-L



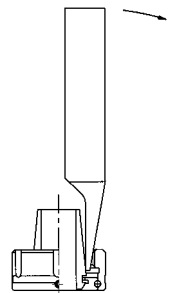
Ordering Instructions



Code No. 392	Model No.	Applicable Collet
993282	CMA0608-L	CMA 6
		CMA 8
993283	CMA1013-L	CMA10
		CMA13
993284	CMA1620-L	CMA16
		CMA20

Collet Removal Method

Insert the Collet Removing Lever between the nut and the collet as shown in the diagram, then using the inside face of the nut as a pivot, tilt the lever in the arrowed direction to remove the collet from the nut.

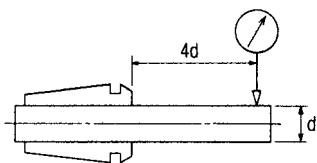


Accessories for “μ-ACE”

Collet/CMA

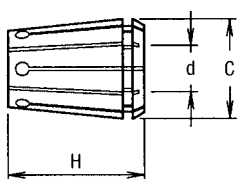
☆ Collets in the following tables are in stock.

• This high accuracy collet realizes stable run-out accuracy.



Grade of Accuracy	Run-out
AA	Max. 3 μm/4d or less
A	Max. 10 μm/4d or less

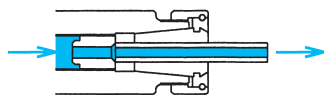
• Run-out is the tolerance value when chucking a test bar of the same bore as the collet.



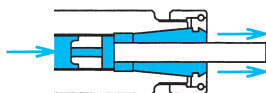
(Unit: mm)

Model No.	C	H
CMA 6-d	9.5	14.5
CMA 8-d	12.4	18.5
CMA10-d	16.5	27
CMA13-d	20.5	31
CMA16-d	25.5	35
CMA20-d	28.5	38

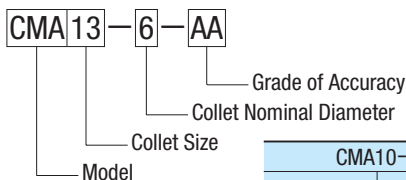
Tool-through Applications
(Using tool with oil holes)



Collet-through Applications
(Using tool without oil holes)



Ordering Instructions



CMA6-d	
Model No.	Shrinkage
CMA6-0.75	
-1	
-1.25	
-1.5	
-1.75	
-2	
-2.25	
-2.5	
-2.75	
-3	
-3.25	0.25
-3.5	
-3.75	
-4	
-4.25	
-4.5	
-4.75	
-5	
-5.25	
-5.5	
-5.75	
-6	

CMA8-d	
Model No.	Shrinkage
CMA8-1	
-1.25	
-1.5	
-1.75	0.25
-2	
-2.25	
-2.5	
-3	
-3.5	
-4	
-4.5	
-5	0.4
-5.5	
-6	
-6.5	
-7	
-7.5	
-8	

CMA10-d	
Model No.	Shrinkage
CMA10- 2	
- 2.25	0.3
- 2.5	
- 3	
- 3.5	
- 4	
- 4.5	
- 5	
- 5.5	
- 6	0.5
- 6.5	
- 7	
- 7.5	
- 8	
- 8.5	
- 9	
- 9.5	
-10	

CMA13-d	
Model No.	Shrinkage
CMA13- 2	
- 2.25	0.3
- 2.5	
- 3	
- 3.5	
- 4	
- 4.5	
- 5	
- 5.5	
- 6	
- 6.5	
- 7	0.5
- 7.5	
- 8	
- 8.5	
- 9	
- 9.5	
-10	

CMA16-d	
Model No.	Shrinkage
CMA16- 6	
- 6.5	
- 7	
- 7.5	
- 8	
- 8.5	
- 9	
- 9.5	
-10	
-10.5	0.5
-11	
-11.5	
-12	
-12.5	
-13	
-13.5	
-14	
-14.5	
-15	
-15.5	
-16	

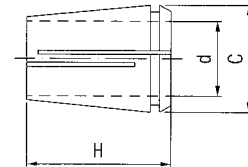
CMA20-d	
Model No.	Shrinkage
CMA20- 6	
- 6.5	
- 7	
- 7.5	
- 8	
- 8.5	
- 9	
- 9.5	
-10	
-10.5	0.5
-11	
-11.5	
-12	
-12.5	
-13	
-13.5	
-14	
-14.5	
-15	
-15.5	
-16	
-16.5	
-17	
-17.5	
-18	
-18.5	
-19	
-19.5	
-20	

Accessories for “μ-ACE”

Coolant Fed Collet/CMA-C

- This collet is used for supplying coolant from the cutting blade when using tools with oil holes. It is used in the case where adjusting screws are not used.

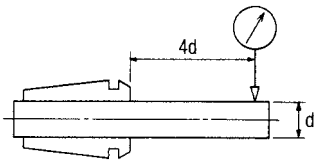
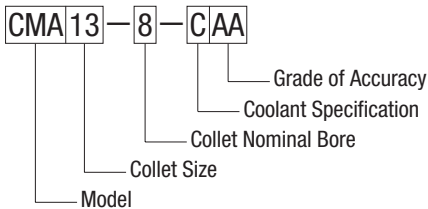
☆ Collets in the following tables are in stock.



(Unit: mm)

Model No.	C	H
CMA6-d-C	9.5	14.5
CMA8-d-C	12.4	18.5
CMA10-d-C	16.5	27
CMA13-d-C	20.5	31
CMA16-d-C	25.5	35
CMA20-d-C	28.5	38

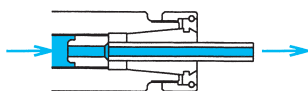
Ordering Instructions



Grade of Accuracy	Run-out
AA	Max. 3 μm/4d or less
A	Max. 10 μm/4d or less

- Run-out is the tolerance value when chucking a test bar of the same bore as the collet.

Tool-through Applications
(Using tools with oil holes)



CMA6-d-C		CMA8-d-C		CMA10-d-C		
Model No.	Shrinkage	Model No.	Shrinkage	Model No.	Shrinkage	
CMA6-3-C	0.1	CMA8-4-C	0.1	CMA10-4-C	0.1	
-4-C		-5-C		-5-C		
-5-C		-6-C		-6-C		
-6-C		-7-C		-7-C		
	-8-C	-8-C				
		-9-C				
		-10-C				
CMA13-d-C		CMA16-d-C		CMA20-d-C		
Model No.	Shrinkage	Model No.	Shrinkage	Model No.		Shrinkage
CMA13-6-C	0.1	CMA16-6-C	0.1	CMA20-8-C		0.1
-7-C		-7-C		-9-C		
-8-C		-8-C		-10-C		
-9-C		-9-C		-11-C		
-10-C		-10-C		-12-C		
-11-C		-11-C		-13-C		
-12-C		-12-C		-14-C		
-13-C	-13-C	-15-C				
		-14-C				
		-15-C				
		-16-C				

Note: When using collets that are not described in the table above, contact KURODA beforehand.

Accessories for “μ-ACE”

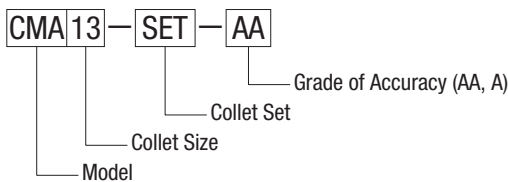
Collet Set /CMA-SET

- This is a full set of collets that covers the complete range of all chucking sizes.

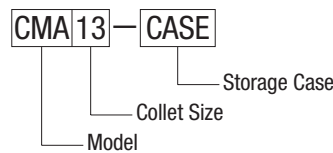


Ordering Instructions

Collet Set



Storage Case Only



(Unit: mm)

Model No.	Chuckling Range	Number of Collets (No. of Storage Holes)	Stored Collet Bores	Size of Case (Depth x Width x Height)
CMA 6-SET-□	φ 1.75~φ 6	10 (15)	φ2 φ2.25 φ2.5 φ3 φ3.5 φ4 φ4.5 φ5 φ5.5 φ6	82×190×37
CMA 8-SET-□	φ 1.75~φ 8	14 (18)	φ2 φ2.25 φ2.5 φ3 φ3.5 φ4 φ4.5 φ5 φ5.5 φ6 φ6.5 φ7 φ7.5 φ8	104×244×43
CMA10-SET-□	φ 2.5 ~φ10	15 (18)	φ3 φ3.5 φ4 φ4.5 φ5 φ5.5 φ6 φ6.5 φ7 φ7.5 φ8 φ8.5 φ9 φ9.5 φ10	96×271×43
CMA13-SET-□	φ 2.5 ~φ13	21 (24)	φ3 φ3.5 φ4 φ4.5 φ5 φ5.5 φ6 φ6.5 φ7 φ7.5 φ8 φ8.5 φ9 φ9.5 φ10 φ10.5 φ11 φ11.5 φ12 φ12.5 φ13	142×294×47
CMA16-SET-□	φ 5.5 ~φ16	21	φ6 φ6.5 φ7 φ7.5 φ8 φ8.5 φ9 φ9.5 φ10 φ10.5 φ11 φ11.5 φ12 φ12.5 φ13 φ13.5 φ14 φ14.5 φ15 φ15.5 φ16	165×314×51
CMA20-SET-□	φ 9.5 ~φ20	21	φ10 φ10.5 φ11 φ11.5 φ12 φ12.5 φ13 φ13.5 φ14 φ14.5 φ15 φ15.5 φ16 φ16.5 φ17 φ17.5 φ18 φ18.5 φ19 φ19.5 φ20	172×334×53

- The collet sets described above do not completely cover all chucking ranges.
For the stored collet bore shrinkage allowances, see page 47.
- When using collets that are not described in the table above, contact KURODA beforehand.