

MMK

POWER CHUCKS

& CYLINDERS



MMK Original
Double Slide Keys



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Overview of mmk Power Operated Chucks

1 Versatile Base Model Chucks



Z



He



GH/GX

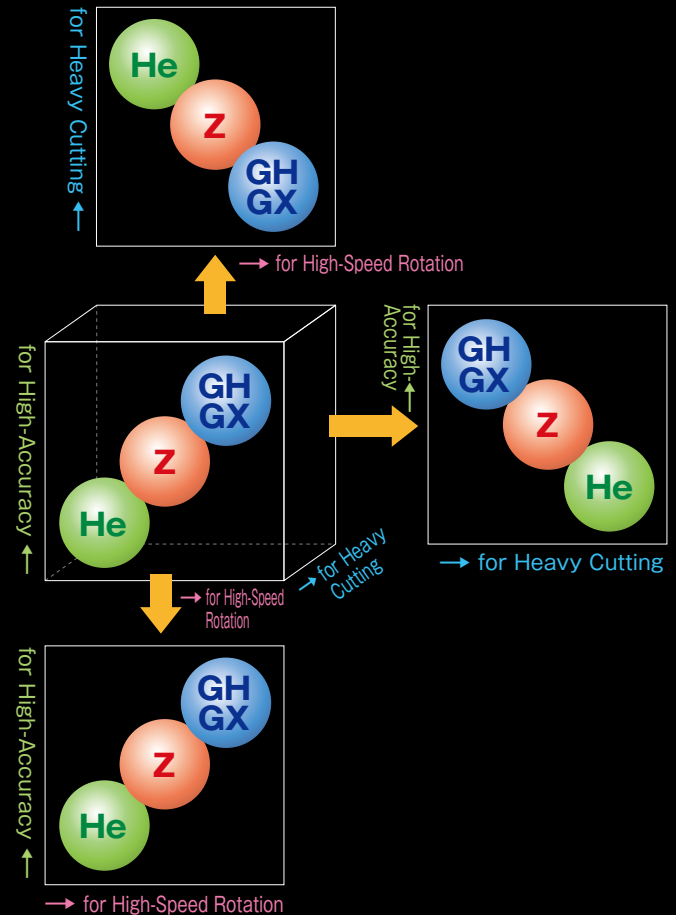
mmk has three models for versatile use:



Choose it according to your purpose, in reference to the picture on the right.

	General Purpose Model·Serration Jaws
	Heavy Cutting Model / Serration Jaws Master Jaws: Double keys Only at mmk
	GH: High-Speed Rotation & High-Accuracy Model Cross-Key Jaws
	GX: GH with structure of pulling-down slantingly / Cross-Key Jaws Only at mmk

Notes: Those jaws of & are compatible.



2 Design Chucks

mmk has designed many different types of specialty chucks.

Depending on your specific type of application and/or size, shape, and weight of your workpiece, mmk can offer to design and build a custom chuck.

Examples:

- Want to avoid the troubles of cutting chips or shorten maintenance time? ⇒ Sealed Chucks
- Need to reduce labor time during setup changes? ⇒ SMED System, U-Chuck, K-Chuck
- Need a chuck specifically for mounting onto a machining center table? ⇒ Stationary Chuck(STC), RS6J
- Looking for small-sized, power operated chucks? ⇒ USS Chuck
- Need a special chuck for a non-round or irregular sized part? ⇒ Multi-Jaw Chuck, 2-Jaw Chuck

mmk can design and build you a custom chuck, to meet the needs of your specific application.

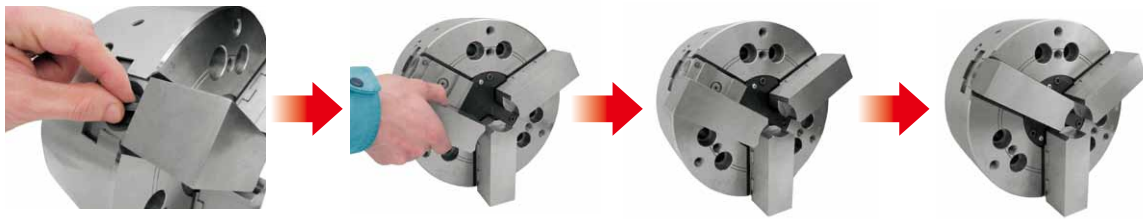
Please consult with an mmk application specialist to discuss your requirements.

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List of **MMK** SMED SYSTEM

	QJC(II) Quick Jaw Exchange System	GH&GX High-Speed Rotation High-Accuracy Spec.	AJC Auto Jaw Exchange System
Benefits:	<p>[Labor-Saving] No need to reset soft jaws on a lathe each time. Simple and easy jaw setting.</p> <p>[High Repeatability] Easy and accurate jaw positioning.</p>		
Advantages:	<ul style="list-style-type: none"> • Quick & simple jaw exchange 	<ul style="list-style-type: none"> • Durability (Twice of MMK standard model) • High-accuracy 	<ul style="list-style-type: none"> • 24 hours operation • Automation by robots
Recommended Work-Pieces	<ul style="list-style-type: none"> • for generalized work-pieces 	<ul style="list-style-type: none"> • for small work-pieces 	<ul style="list-style-type: none"> • for small to medium lot • for many kinds & variety lot
Sizes:	<ul style="list-style-type: none"> • 6"—10" 	<ul style="list-style-type: none"> • 4"—12" 	<ul style="list-style-type: none"> • 8"—18"
Recorded Field: <small>*as a reference</small>	<ul style="list-style-type: none"> • Construction machinery parts • General industrial machine parts • Multiproduct production 	<ul style="list-style-type: none"> • Automobile parts • IT related parts • Aircraft associated parts 	<ul style="list-style-type: none"> • Construction machinery parts • General industrial machine parts • Multiproduct production
Product Pictures:	 <p>Slide System</p> <p>Tool-Less Indicator</p>	 <p>Easy Positioning Cross-Key Structure</p>	 <p>Able to exchange all jaws at once</p> <p>Corresponds to various shapes of workpieces with exchange plates.</p>

QJC (II) Quick Jaw Exchange System



Helpful for Labor Saving: Jaw-Exchange-Time 1/10 (compared to MMK standards)

- No wrench necessary. Just turn each Indicator 90 degrees, then slide jaw to remove or attach.
- No loss-time for jaw-positioning.

High-Repeatability Repeatability $\leq 10\mu$

- Reliable jaw-positioning structure by wedge & pin.
- High-repeatability is possible by anybody and anytime.

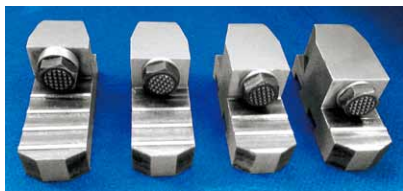
Option

- 『Insert-Jaw』: the best use of taking the advantage of "Quick Jaw Exchange"

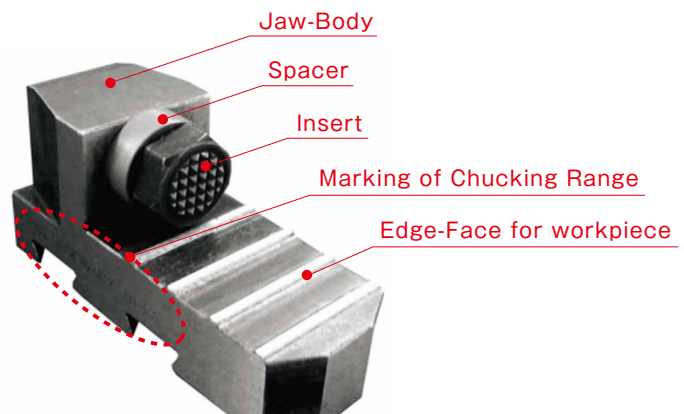


Advantage of 『MMK Insert-Jaw』:

- Spike-jaw allows for steady chucking
- Abrasion resistance by carbide-spike
- Universal wrench is available for adjustment



If you prepare the insert-jaws that already have formed for the certain workpieces, even the initial shaping process is unnecessary.



Note: Refer to page 17 for the specification

GH & GX High Speed & High Accuracy

Corresponding to many kinds of various needs by high-speed-rotating specification

- 4": Maximum rotating speed (R.P.M.) GH8,400 / GX8,600
- 6": Maximum rotating speed (R.P.M.) GH8,000 / GX8,200
- 8": Maximum rotating speed (R.P.M.) GH7,000 / GX7,200

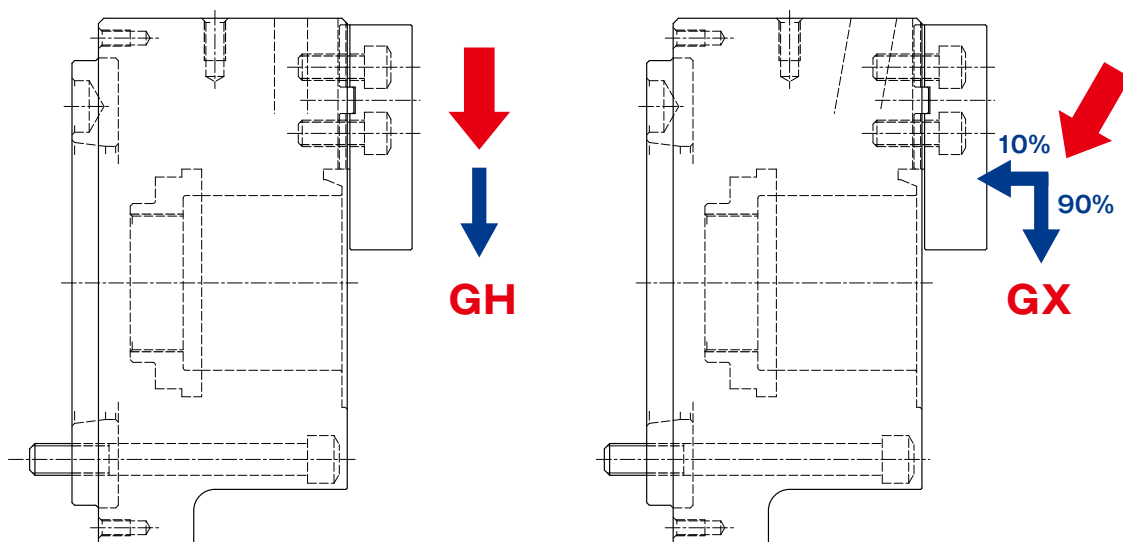


High-Accuracy & High-Repeatability

- Standard: Repeatability $\leq 10\mu$ Result in the past: Repeatability $\leq 5\mu$
- Cross-key structure provides high accuracy and makes jaw-positioning easy and reliable.

GX Model: Slant Gripping Provides Added Pull-Down Force

- 10% pull-down force & 90% gripping force
- The pull-down model is only at **mmK**

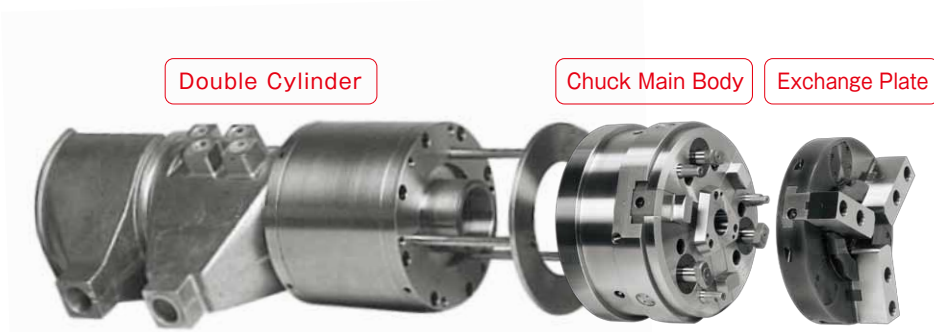


Fully compatible with the same type of cylinders

- Special actuator and special hydraulic control aren't necessary.

Note: Refer to page 18 for the specification

AJC Auto Jaw Exchange System



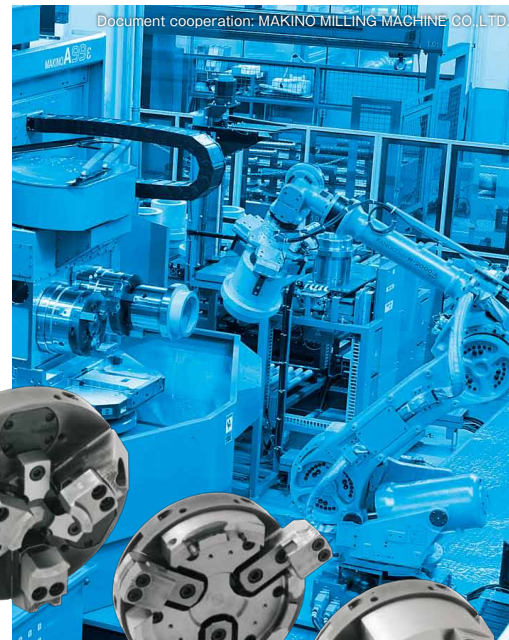
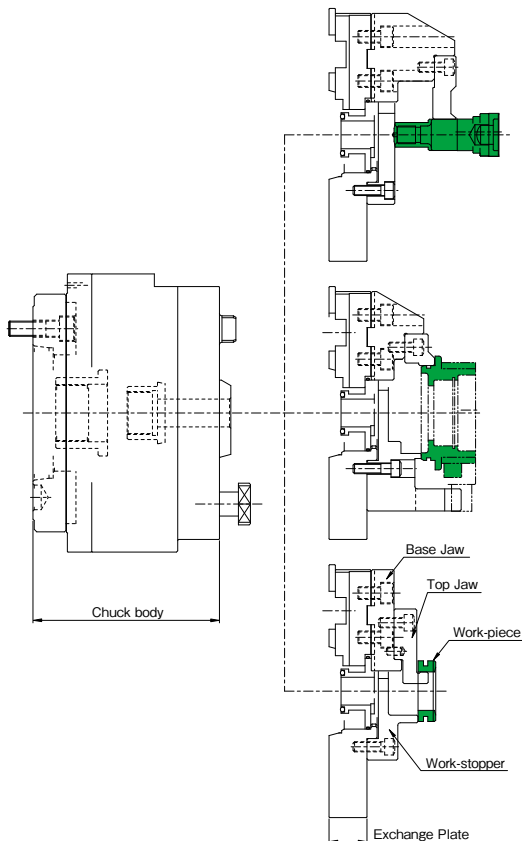
Exchange plates provide increased versatility, for use with various workpieces.

Able to exchange instantly

- Able to exchange all jaws at once with the use of exchange plates. Repeatability of Exchange Plates $\leq 0.01\text{mm}$
- Work-stoppers and balance-weights also can exchange at once.
- Best suited for 24/7 automation with robotic integration

High-Accuracy

- Reliable gripping-accuracy with wedge-shaped mechanism. Gripping Accuracy $\leq 0.018\text{mm}$ (Result in past of AJCA6-8)
Gripping Accuracy $\leq 0.015\text{mm}$ (Result in past of AJCA11-15)

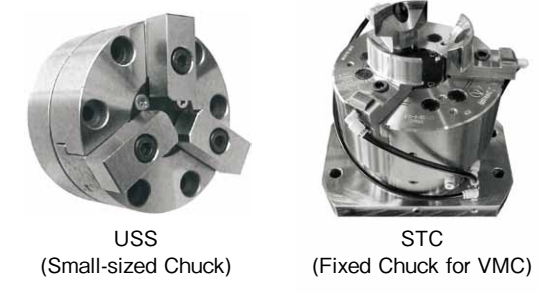
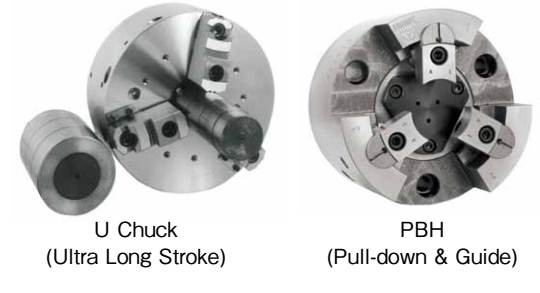
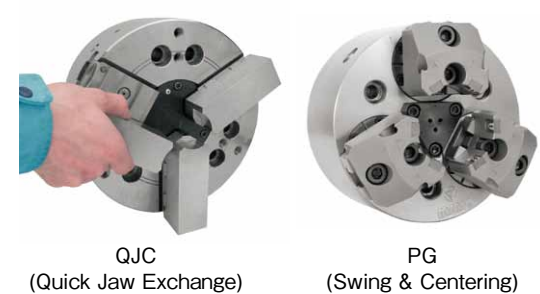
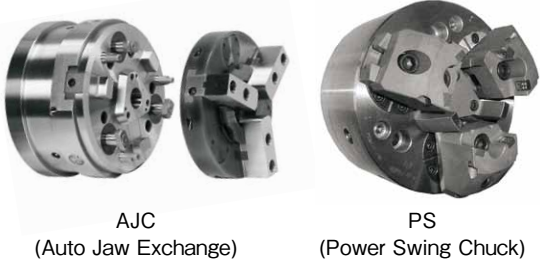
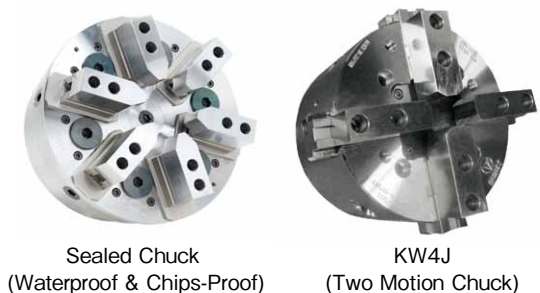


Example of Exchange Plates

Note: Refer to page 19 for the specification

List of **mmk** Chucks

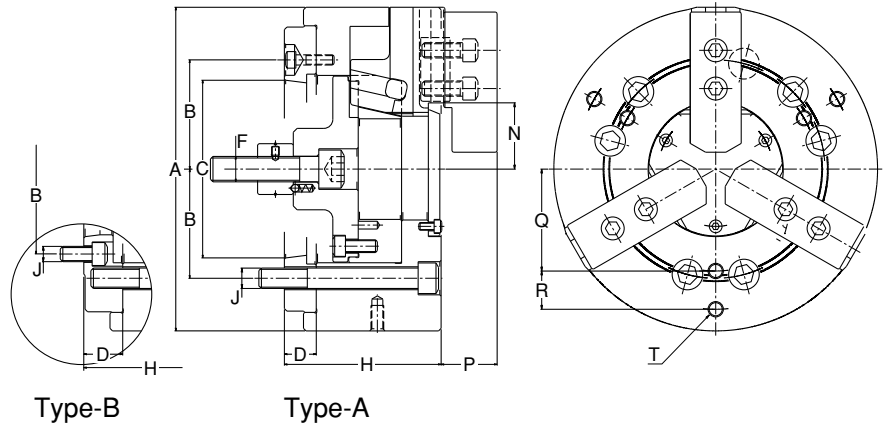
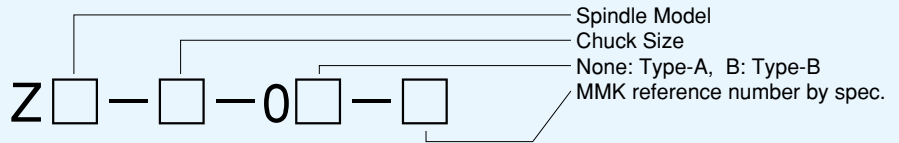
Characteristics		mmk Chucks Line-up										Characteristics	
		Versatile Base Model Chucks											
		Z	ZL	ZJ	GH	GX	He	HH	M	RS			
Peculiarity · Function	High-Rigidity						○	○	○	○			High-Rigidity
	High-Speed Rotation				○	○							High-Speed Rotation
	High-Accuracy				○	○							High-Accuracy
	Large-Sized								○				Large-Sized
	General Purpose Model	○											General Purpose Model
	Numbers of Jaw	3	3	2	3	3	3	3	3	3	3		Numbers of Jaw
	Long-Stroke		○							○	○		Long-Stroke
	Ultra-Long-Stroke												Ultra-Long-Stroke
	High-Repeatability Jaw Exchange				○	○							High-Repeatability Jaw Exchange
	Two by Two Driving Force												Two by Two Driving Force
	Auto Jaw Exchange												Auto Jaw Exchange
	Quick Jaw Exchange												Quick Jaw Exchange
	Sealed												Sealed
	Stationary / non-rotation												Stationary / non-rotation
	Compensating												Compensating
	Slant Pull-Down					○							Slant Pull-Down
	Swing Pull-Down												Swing Pull-Down
	Power-bar Pull-Down												Power-bar Pull-Down
	Swivel Pull-Down												Swivel Pull-Down
	Vertical Pull-Down												Vertical Pull-Down
Steel Body	○	○	○	○	○	○	○	○	○	○		Steel Body	
Outer Gripping	○	○	○	○	○	○	○	○	○	○		Outer Gripping	
Lining	○	○	○	○		○	○	○	○	○		Lining	
for Coolant-Through	○	○	○	○	○	○	○	○	○	○		for Coolant-Through	
Application	for Turning	○	○	○	○	○	○	○	○			for Turning	
	for Milling & Drilling	○	○	○	○	○	○	○		○		for Milling & Drilling	
	for Robot-Loader											for Robot-Loader	
Structure · Specification	Closed Center	○		○	○	○	○		○	○		Closed Center	
	Thru-Hole	○	○	○	○	○			○			Thru-Hole	
	Serration Jaw	○	○	○					○	○		Serration Jaw	
	Cross-Key Jaw				○	○				○	○	Cross-Key Jaw	
	Special formed Jaw & Others											Special formed Jaw & Others	
	Double Slide Master Jaw								○			Double Slide Master Jaw	
	Wedge	○	○	○	○	○	○	○				Wedge	
	Scroll									○	○	Scroll	
	Cam Lever											Cam Lever	
	Finger											Finger	
	Cam Slot											Cam Slot	
	Power Bar											Power Bar	
	Power Swing											Power Swing	
	Rack & Pinion											Rack & Pinion	
	Hydraulic Motor Drive											Hydraulic Motor Drive	
Build-in Cylinder											Build-in Cylinder		
Corresponding Sizes	4" } 18"	6" } 18"	6" } 18"	4" } 12"	4" } 12"	6" } 12"	21" } 50"	4" } 42"	6" } 42"			Corresponding Sizes	



Z-0 Closed Center 3 Jaw Power Operated Chuck



The Z-0 chuck has superior accuracy. Its chuck body is made of a special alloy steel, which is heat treated, then finished with a grinder.

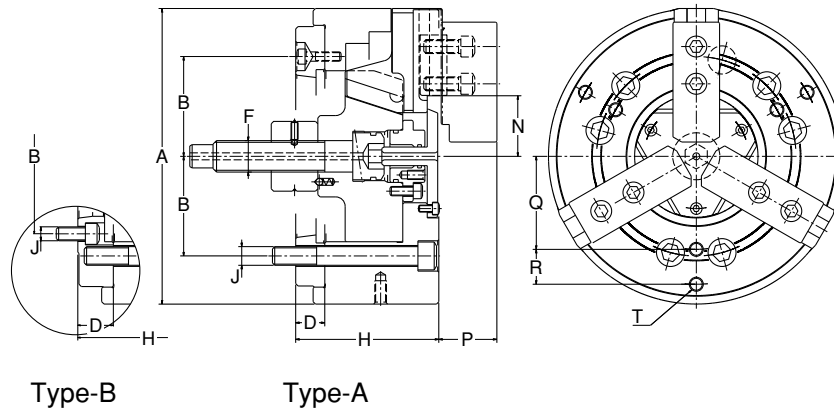
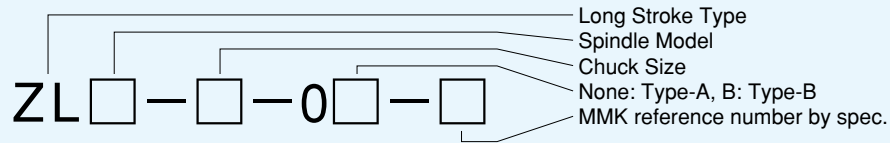


Note : MMK has both short tapered type and straight type for a main-spindle as to each machine tool makers. C* in the below size-table is a short tapered type.

Model		Unit	ZA5-6-0	ZA6-8-0	ZA6-10-0	ZA8-10-0	ZA8-12-0	ZA8-15-0	ZA11-15-0	ZA11-18-0
Specification										
Chuck Diameter		in.	6	8	10	10	12	15	15	18
Permissible Max. R.P.M.		min ⁻¹	6,000	5,000	4,000	4,000	3,400	2,500	2,500	2,000
Jaw Stroke in DIA		mm	5.8	7.6	9	9	9	11.3	11.3	11.3
Work-piece Diameter	Max.	mm	148.5	189	228.6	228.6	274.5	342.9	342.9	411.3
	Min.	mm	12	21	26.5	26.5	43	75	75	75
Max. Gripping Force		KN	47	78.4	107.8	107.8	137.2	176.4	176.4	176.4
		kgf	4,800	8,000	11,000	11,000	14,000	18,000	18,000	18,000
Permissible Draw-pull		KN	22.1	27	42.6	42.6	59.8	68.6	68.6	68.6
		kgf	2,250	2,750	4,350	4,350	6,100	7,000	7,000	7,000
Weight		kg	13	24	38.5	38.5	70	132	124	180
Applicable Cylinder			RNKP105-15	RNKP120-20	RNKP135-20		RNKP200-35			

Model		Unit	ZA5-6-0	ZA6-8-0	ZA6-10-0	ZA8-10-0	ZA8-12-0	ZA8-15-0	ZA11-15-0	ZA11-18-0
Size										
A		mm	165	210	254	254	305	381	381	457
B		mm	52.4	66.7	66.7	85.7	85.7	85.7	117.5	117.5
C*			A5	A6	A6	A8	A8	A8	A11	A11
D		mm	14.5	17.5	30.5	25	27	60	35	35
F			M20xP2.5	M20xP2.5	M20xP2.5	M20xP2.5	M27xP3.0	M27xP3.0	M27xP3.0	M27xP3.0
H		mm	82.5	104	128.5	123	124	190	165	177
J			6-M10	6-M12	6-M12	6-M16	6-M16	6-M16	6-M20	6-M20
N	Max.	mm	32.5	39.5	52	52	65	79.55	79.55	79.55
	Min.	mm	29.6	35.7	47.5	47.5	60.5	73.9	73.9	73.9
P		mm	32	42	44	44	54	65	65	65
Q		mm	45	60	80	80	85	100	100	120
R		mm	25	25	30	30	45	60	60	75
T			6-M8Depth12	6-M8Depth15	6-M12Depth18		6-M16Depth18	6-M16Depth25		

ZL-0 Closed Center Long Stroke 3 Jaw Power Operated Chuck

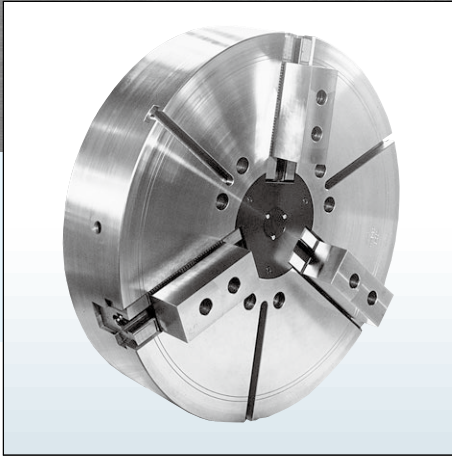


Note : MMK has both short tapered type and straight type for a main-spindle as to each machine tool makers. C* in the below size-table is a short tapered type.

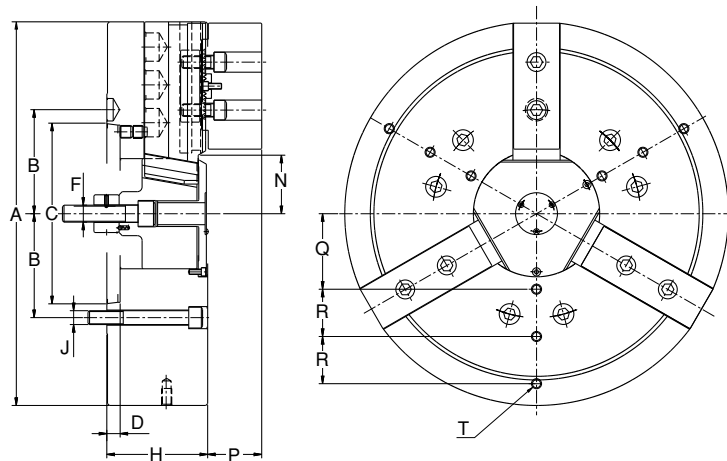
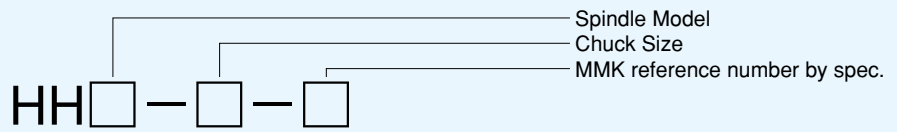
Model		Unit	ZLA6-8-0	ZLA8-10-0	ZLA8-12-0	ZLA11-15-0
Specification						
Chuck Diameter		in.	8	10	12	15
Permissible Max. R.P.M.		min ⁻¹	3,600	4,000	3,200	2,500
Jaw Stroke in DIA		mm	16.5	15.6	18.2	23.4
Work-piece Diameter	Max.	mm	189	228.6	274.5	342.9
	Min.	mm	21	26.5	50	75
Max. Gripping Force		KN	45.11	107.8	137.29	176.52
		kgf	4,600	11,000	14,000	18,000
Permissible Draw-pull		KN	29.42	58.8	74.53	96.11
		kgf	3,000	6,000	7,600	9,800
Weight		kg	23.5	39	70	124
Applicable Cylinder			RNKP120-25	RNKP165-25	RNKP200-35	RNKP200-50

Model		Unit	ZLA6-8-0	ZLA8-10-0	ZLA8-12-0	ZLA11-15-0
Size						
A		mm	210	254	305	381
B		mm	66.7	85.7	85.7	117.5
C*			A6	A8	A8	A11
D		mm	17.5	25	30	35
F			M20xP2.5	M27xP3.0	M27xP3.0	M36xP4.0
H		mm	104	123	135	165
J			6-M12	6-M16	6-M16	6-M20
N	Max.	mm	39.5	52	60	79.5
	Min.	mm	31.25	44.2	50.9	67.8
P		mm	42	44	54	65
Q		mm	60	80	85	100
R		mm	25	30	45	60
T			6-M8Depth15	6-M12Depth18	6-M16Depth20	6-M16Depth25

HH Closed Center 3 Jaw Power Operated Chuck



The HH chuck body is made of steel, for heavy duty cutting applications. Designed to mount directly onto the machine spindle nose, the HH chuck provides enhanced durability.

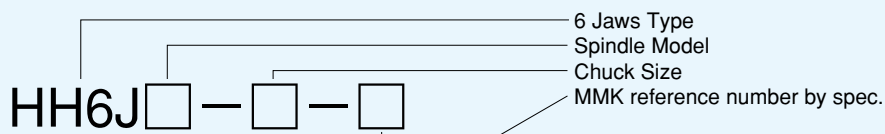
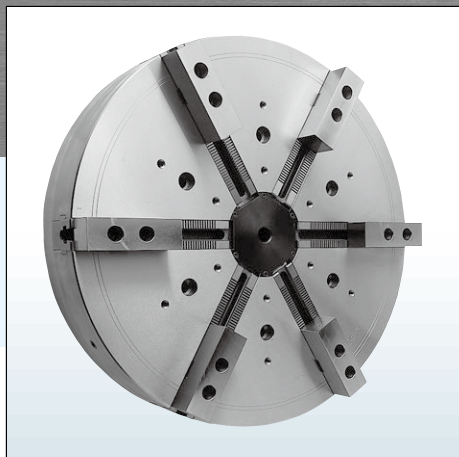


Note : MMK has both short tapered type and straight type for a main-spindle as to each machine tool makers. C* in the below size-table is a short tapered type.

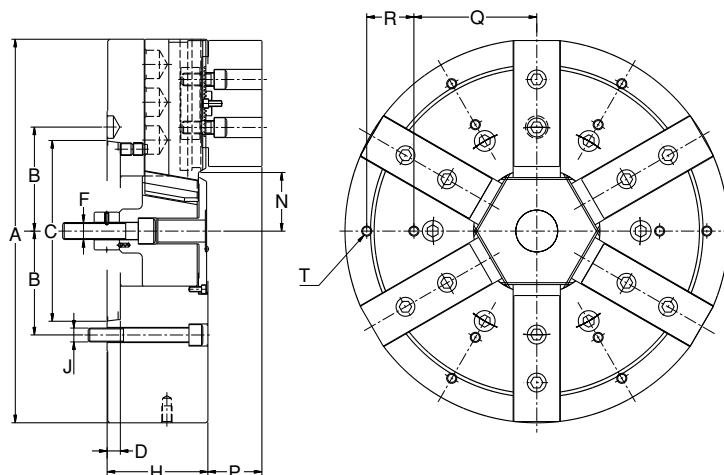
Model		Unit	HHA11-21	HHA15-21	HHA11-24	HHA15-24	HHA20-24	HHA11-28	HHA15-28	HHA20-28	HHA11-32	HHA15-32	HHA20-32	HHA15-36	HHA20-36	HHA15-40	HHA20-40
Specification	Chuck Diameter	in.	21	21	24	24	24	28	28	28	32	32	32	36	36	40	40
	Permissible Max. R.P.M.	min ⁻¹	1,250	1,250	1,100	1,100	1,100	1,075	1,075	1,075	940	940	940	830	830	750	750
	Jaw Stroke in DIA	mm	12	12	12	12	12	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Work-piece Diameter	Max.	mm	479.7	479.7	548.1	548.1	548.1	640	640	640	731.7	731.7	731.7	820	820	914.4	914.4
	Min.	mm	71	71	133.4	133.4	133.4	135	135	135	134.6	134.6	134.6	134.8	134.8	134.8	134.8
Max. Gripping Force	KN		196	196	196	196	196	245	245	245	245	245	245	245	245	245	245
	kgf		20,000	20,000	20,000	20,000	20,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Permissible Draw-pull	KN		71.2	71.2	71.2	71.2	71.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2
	kgf		7,267	7,267	7,267	7,267	7,267	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000
Weight	kg		275	275	350	350	350	400	400	400	440	440	440	650	650	845	845
Applicable Cylinder			RNKP200-35					RNKP200-50									

Model		Unit	HHA11-21	HHA15-21	HHA11-24	HHA15-24	HHA20-24	HHA11-28	HHA15-28	HHA20-28	HHA11-32	HHA15-32	HHA20-32	HHA15-36	HHA20-36	HHA15-40	HHA20-40
Size	A	mm	533	533	609	609	609	711	711	711	813	813	813	914	914	1016	1016
	B	mm	117.5	161.5	117.5	161.5	231.8	117.5	161.5	231.8	117.5	161.5	231.8	161.5	231.8	161.5	231.8
	C*		A11	A15	A11	A15	A20	A11	A15	A20	A11	A15	A20	A15	A20	A15	A20
	D	mm	19.5	21	19.5	21	23	19.5	21	23	19.5	21	23	21	23	21	23
	F		M27xP3.0					M30xP3.5									
	H	mm	160	160	160	160	160	200	200	200	200	200	200	200	200	200	200
	J		6-M20	6-M22	6-M20	6-M20	6-M24	6-M20	6-M22	6-M24	6-M20	6-M22	6-M24	6-M22	6-M24	6-M22	6-M24
N	Max.	mm	93	93	93	93	93	97	97	97	97	97	97	97	97	97	97
	Min.	mm	87	87	87	87	87	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3
	P	mm	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8
	Q	mm	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	R	mm	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
	T		6-M16Depth25			9-M16Depth25					12-M16Depth25			15-M16Depth25			

HH6J Closed Center 6 Jaw Hydraulic Chuck



The HH6J chuck is most suitable for ring-shaped, thin-walled workpieces. This 6-jaw design effectively disperses the energy among its many jaws, thereby eliminating any possible distortion of the thin walls of a workpiece.



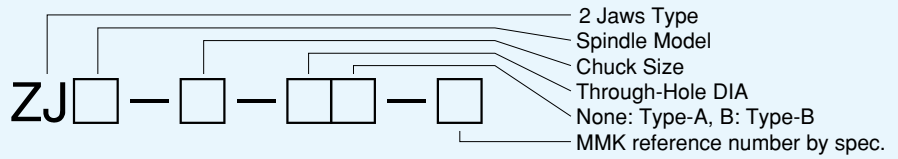
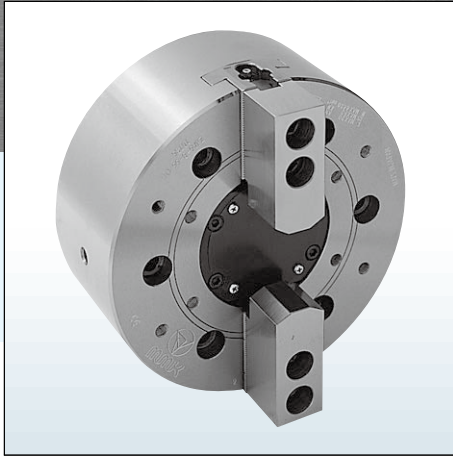
Note : MMK has both short tapered type and straight type for a main-spindle as to each machine tool makers. C* in the below size-table is a short tapered type.

Model		Unit	HH6JA11-24	HH6JA20-24	HH6JA11-32	HH6JA15-36	HH6JA20-50
Specification							
Chuck Diameter		in.	24	24	32	36	50
Permissible Max. R.P.M.		min ⁻¹	955	955	940	500	450
Jaw Stroke in DIA		mm	12	12	17.5	12	17.6
Work-piece Diameter	Max.	mm	540	540	731.7	810	1143
	Min.	mm	76	76	112	100	214
Max. Gripping Force		KN	147	147	196	218.5	196
		kgf	15,000	15,000	20,000	22,300	20,000
Permissible Draw-pull		KN	53.4	53.4	73.5	74.2	73.5
		kgf	5,450	5,450	7,500	7,575	7,500
Weight		kg	285	365	455	400	1,700
Applicable Cylinder			RNKP200-35		RNKP200-50	RNKP200-35	RNKP200-50

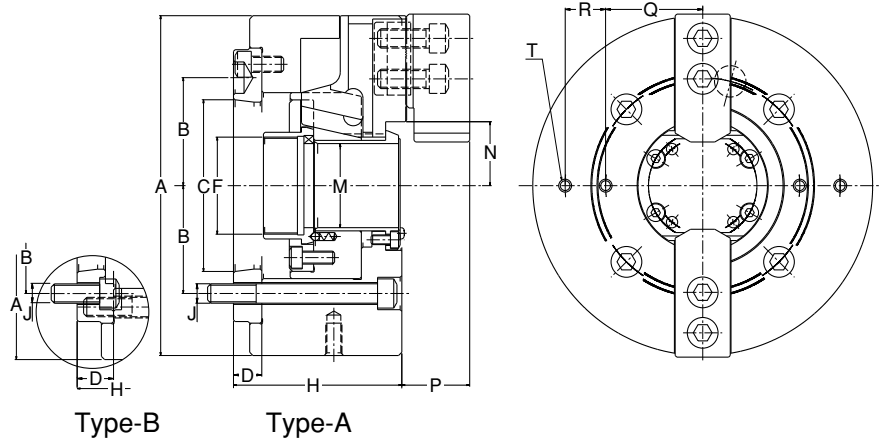
Model		Unit	HH6JA11-24	HH6JA20-24	HH6JA11-32	HH6JA15-36	HH6JA20-50	
Size								
A		mm	600	600	813	900	1,270	
B		mm	117.5	161.5	117.5	165.1	231.8	
C*			A11	A20	A11	A15	A20	
D		mm	19.5	23	19.5	21	23	
F			M27xP3.0	M27xP3.0	M27xP3.0	M30xP3.5	M30xP3.5	
H		mm	160	160	180	160	200	
J			6-M20	6-M22	6-M20	6-M20	6-M24	
N	Max.	mm	95	95	95	100	132	
	Min.	mm	89	89	89	94	123.2	
P		mm	69.5	69.5	69.5	70	85.8	
Q		mm	150	150	150	-	195	
R		mm	100	45	150	-	75	
T			12-M16Depth30			-	18-M16Depth30	

Note : 7 or 9 jaws specifications are also possible.

ZJ Through-Hole 2 Jaw Power Operated Chuck



This model is suitable for chucking of square bars and peculiar shaped work-pieces that are difficult to chuck with 3 jaws, such as valves etc.



Note1 : MMK has different sizes of draw-screws (F) adapting to each machine tool makers.
 Note2 : MMK has both short tapered type and straight type for a main-spindle as to each machine tool makers. C* in the below size-table is a short tapered type.

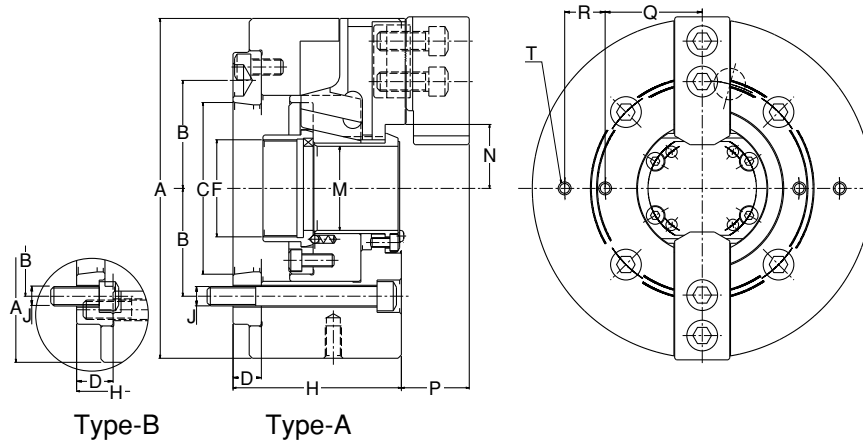
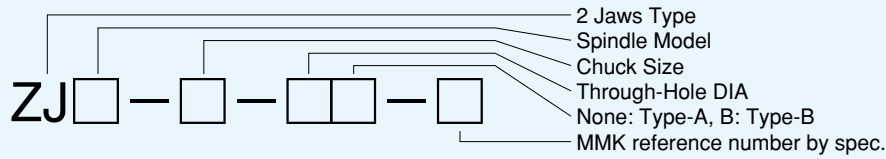
Model		Unit	ZJA5-6-46	ZJA6-8-52	ZJA6-10-75B	ZJA8-10-75	ZJA8-12-85
Specification							
Chuck Diameter		in.	6	8	10	10	12
Permissible Max. R.P.M.		min ⁻¹	6,000	5,000	4,000	4,000	3,200
Jaw Stroke in DIA		mm	5.8	7.6	9	9	9
Work-piece Diameter	Max.	mm	148.5	189	228.6	228.6	274.5
	Min.	mm	12	21	26.5	26.5	50
Max. Gripping Force		KN	31.36	52.23	71.54	71.54	91.2
		kgf	3,200	5,330	7,300	7,300	9,300
Permissible Draw-pull		KN	14.7	17.9	28.4	28.4	33.34
		kgf	1,500	1,830	2,900	2,900	3,400
Weight		kg	13	23.5	38.5	38.5	70
Applicable Cylinder			ZKP125/46-13	ZKP150/52-17	ZKP170/75-20		ZKP195/93-20

Model		Unit	ZJA5-6-46	ZJA6-8-52	ZJA6-10-75B	ZJA8-10-75	ZJA8-12-93
Size							
A		mm	165	210	254	254	305
B		mm	52.4	66.7	66.7	85.7	85.7
C*			A5	A6	A6	A8	A8
D		mm	22	17.5	30.5	25	30
F			M55xP1.5	M60xP1.5	M85xP2.0	M85xP2.0	M93xP2.0
H		mm	90	104	128.5	123	135
J			4-M10	4-M12	8-M12	8-M16	8-M16
N	Max.	mm	32.5	39.5	52	52	60
	Min.	mm	29.6	35.7	47.5	47.5	55.5
P		mm	32	42	44	44	54
Q		mm	45	60	80	80	85
R		mm	25	25	30	30	45
T			4-M8Depth12	4-M8Depth15	4-M12Depth18		4-M16Depth20

Note3 : 2 Jaw Closed-center Type : ZJA5-6-0 (6"), ZJA6-8-0 (8"), ZJA8-10-0 (10") are also possible.

ZJ

Big Bore Through-Hole 2 Jaw Power Operated Chuck

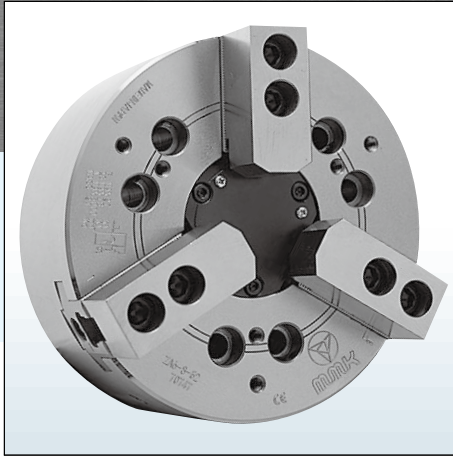


Note : MMK has both short tapered type and straight type for a main-spindle as to each machine tool makers. C* in the below size-table is a short tapered type.

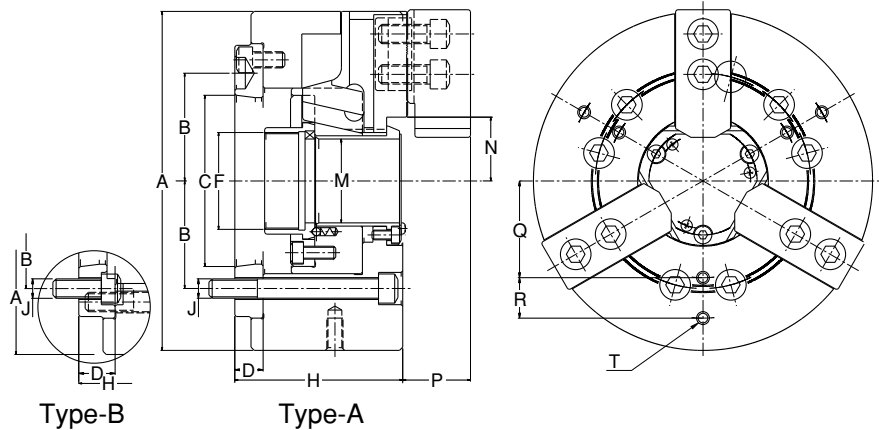
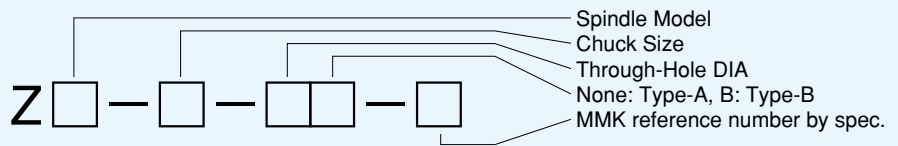
Specification		Model	Unit	ZJA6-8-66B	ZJA8-10-78B	ZJA8-12-93
Chuck Diameter			in.	8	10	12
Permissible Max. R.P.M.			min ⁻¹	4,400	4,000	3,400
Jaw Stroke in DIA			mm	7.6	9	9
Work-piece Diameter	Max.		mm	193.5	228.6	274.5
	Min.		mm	36	29.5	50
Max. Gripping Force			KN	52.23	71.54	91.2
			kgf	5,330	7,300	9,300
Permissible Draw-pull			KN	20.3	28.4	39.9
			kgf	2,067	2,900	4,070
Weight			kg	25.3	39	65
Applicable Cylinder				ZKP150/66-17	ZKP170/78-20	ZKP195/93-20

Size		Model	Unit	ZJA6-8-66B	ZJA8-10-78B	ZJA8-12-93
A			mm	215	254	305
B			mm	66.7	85.7	85.7
C*				A6	A8	A8
D			mm	22.5	27	27
F				M72xP1.5	M87xP2.0	M103xP2.0
H			mm	107	125	124
J				4-M12	6-M16	6-M16
N	Max.		mm	46.5	53.5	65
	Min.		mm	42.7	49	60.5
P			mm	42	44	54
Q			mm	60	80	85
R			mm	25	30	45
T				4-M8Depth15	4-M12Depth18	4-M16Depth18

Z Through-Hole 3 Jaw Power Operated Chuck



The Z chuck, equipped with a large through-hole and high speed capabilities, is extremely versatile for general machining applications. The matching cylinder is ZKP series.



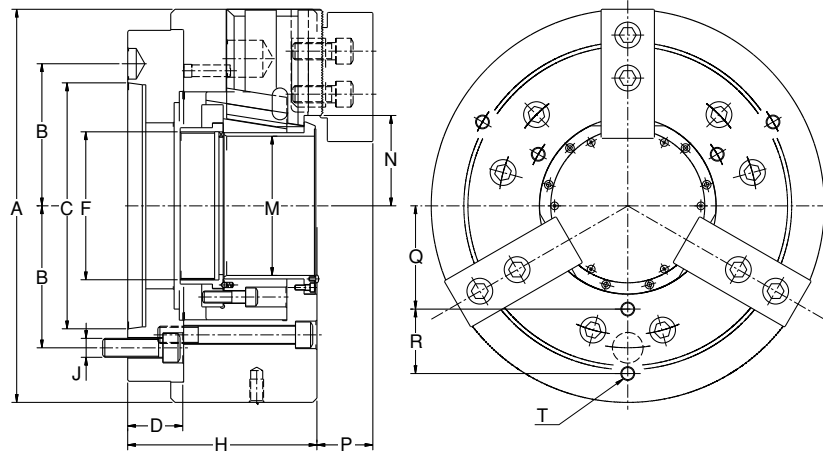
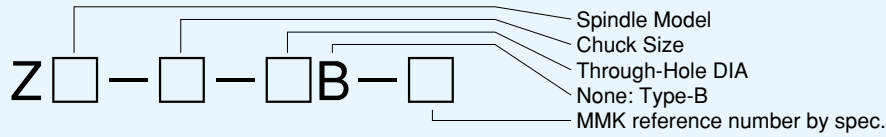
Note1 : MMK has different sizes of draw-screws (F) adapting to each machine tool makers.

Note2 : MMK has both short tapered type and straight type for a main-spindle as to each machine tool makers. C* in the below size-table is a short tapered type.

Model		Unit	ZA5-5-34	ZA5-6-46	ZA6-8-52	ZA6-10-75B	ZA8-10-75	ZA8-12-85	ZA8-15-120B	ZA11-15-120B	ZA11-18-120
Specification											
Chuck Diameter		in.	5	6	8	10	10	12	15	15	18
Permissible Max. R.P.M.		min ⁻¹	7,000	6,000	5,000	4,000	4,000	3,200	2,500	2,500	2,000
Jaw Stroke in DIA		mm	5.4	5.8	7.6	9	9	9	11.3	11.3	11.3
Work-piece Diameter	Max.	mm	121.5	148.5	189	228.6	228.6	274.5	342.9	342.9	411.3
	Min.	mm	23	12	21	26.5	26.5	50	75	75	75
Max. Gripping Force		KN	29.4	47	78.4	107.8	107.8	137.2	176.4	176.4	176.4
		kgf	3,000	4,800	8,000	11,000	11,000	14,000	18,000	18,000	18,000
Permissible Draw-pull		KN	14.7	22.1	27	42.6	42.6	50	68.6	68.6	68.6
		kgf	1,500	2,250	2,750	4,350	4,350	5,100	7,000	7,000	7,000
Weight		kg	6.1	13	23.5	38.5	38.5	70	132	124	180
Applicable Cylinder			ZKP100/34-10	ZKP125/46-13	ZKP150/52-17	ZKP170/75-20		ZKP200/85-20	ZKP230/120-30		

Model		Unit	ZA5-5-34	ZA5-6-46	ZA6-8-52	ZA6-10-75B	ZA8-10-75	ZA8-12-85	ZA8-15-120B	ZA11-15-120B	ZA11-18-120
Size											
A		mm	135	165	210	254	254	305	381	381	457
B		mm	52.4	52.4	66.7	66.7	85.7	85.7	85.7	117.5	117.5
C*			A5	A5	A6	A6	A8	A8	A8	A11	A11
D		mm	16.8	22	17.5	30.5	25	30	60	35	35
F			M40xP1.5	M55xP1.5	M60xP1.5	M85xP2.0	M85xP2.0	M93xP2.0	M130xP2.0	M130xP2.0	M130xP2.0
H		mm	70	90	104	128.5	123	135	190	165	165
J			3-M10	6-M10	6-M12	6-M12	6-M16	6-M16	6-M16	6-M20	6-M20
N	Max.	mm	28.76	32.5	39.5	52	52	60	79.5	79.5	79.5
	Min.	mm	26.06	29.6	35.7	47.5	47.5	55.5	73.85	73.85	73.85
P		mm	32	32	42	44	44	54	65	65	65
Q		mm	-	45	60	80	80	85	100	100	120
R		mm	-	25	25	30	30	45	60	60	75
T			-	6-M8Depth12	6-M8Depth15	6-M12Depth18		6-M16Depth20	6-M16Depth25		

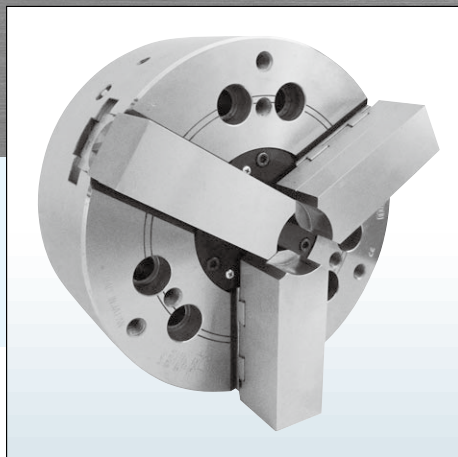
Z Big Bore Through-Hole 3 Jaw Power Operated Chuck



Note1 : MMK has different sizes of draw-screws (F) adapting to each machine tool makers.
Note2 : MMK has both short tapered type and straight type for a main-spindle as to each machine tool makers. C* in the below size-table is a short tapered type.

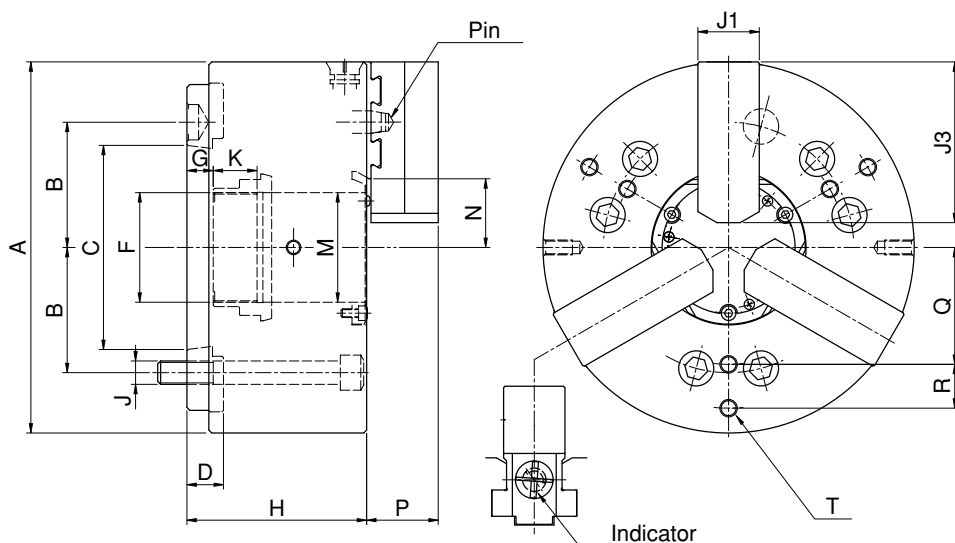
Model		Unit	ZA5-6-53B	ZA6-8-66B	ZA8-10-80B	ZA8-12-93B	ZA11-18-165B	ZA15-18-165B
Specification	Chuck Diameter	in.	6	8	10	12	18	18
	Permissible Max. R.P.M.	min ⁻¹	6,000	4,400	4,000	3,400	2,000	2,000
	Jaw Stroke in DIA	mm	5.8	7.6	9	9	11.3	11.3
Work-piece Diameter	Max.	mm	154.8	193.5	228.6	274.5	411.3	411.3
	Min.	mm	20	36	32.5	43	123	123
Max. Gripping Force		KN	47.0	78.4	107.8	137.2	176.4	176.4
		kgf	4,800	8,000	11,000	14,000	18,000	18,000
Permissible Draw-pull		KN	22.1	30.4	42.6	59.8	68.6	68.6
		kgf	2,250	3,100	4,350	6,100	7,000	7,000
	Weight	kg	14	25.3	39	65	180	180
	Applicable Cylinder		ZKP150/52-17	ZKP150/66-17	ZKP170/78-20	ZKP195/93-20	ZKP280/165-30	

Model		Unit	ZA5-6-53B	ZA6-8-66B	ZA8-10-80B	ZA8-12-93B	ZA11-18-165B	ZA15-18-165B
Size	A	mm	172	215	254	305	457	457
	B	mm	52.4	66.7	85.7	85.7	117.5	165.1
	C*		A5	A6	A8	A8	A11	A15
	D	mm	22	22.5	27	27	47	60
	F		M60xP1.5	M72xP1.5	M90xP2.0	M103xP2.0	M175xP3.0	M175xP3.0
	H	mm	90	107	125	124	177	190
	J		6-M10	6-M12	6-M16	6-M16	6-M20	6-M22
N	Max.	mm	37	46.5	54.5	65	102	102
	Min.	mm	34.1	42.7	50	60.5	96.35	96.35
	P	mm	29	42	44	54	65	65
	Q	mm	45	60	80	85	120	120
	R	mm	25	25	30	45	75	75
	T		6-M8Depth12	6-M8Depth15	6-M12Depth18	6-M16Depth18	6-M16Depth25	



QJC(II) Through-Hole 3 Jaw Power Operated Chuck (Quick Jaw Exchange Chuck)

This model is able to exchange jaws in short-time without using any tools. It does reliable jaw-positioning by wedge & pin and holds high-repeatability.



Note : It needs dedicated jaws for each inner-chucking and outer-chucking. This specification describes soft jaws for outer-chucking type.

Note1 : MMK has different sizes of draw-screws (F) adapting to each machine tool makers.

Note2 : MMK has both short tapered type and straight type for a main-spindle as to each machine tool makers. C* in the below size-table is a short tapered type.

Model		Unit	QJC(II)-6	QJC(II)-8	QJC(II)-10
Specification					
Chuck Diameter		in.	6	8	10
Through-hole DIA.		mm	42	52	66
Jaw Stroke in DIA.		mm	5.8	7.6	8.0
Piston Stroke		mm	13	17	25
Chucking DIA.	Max.	mm	148.5	189	228.6
	Min.	mm	39	52	62
Max. Gripping Force		KN	47	78.4	94.1
Permissible Draw-pull		KN	22.5	27	37
Permissible Max. R.P.M.		mm ⁻¹	6,000	5,000	3,600
Weight		Kg	10.3	19	33.8
Applicable Cylinder			ZKP12/46-13	ZKP150/52-17	ZKP170/66-25
Applicable Soft Jaw			-	3608945	3610454

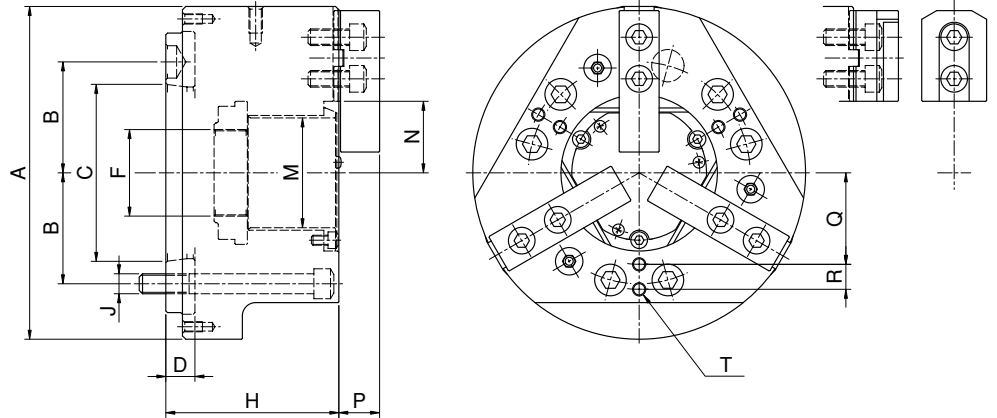
Model		Unit	QJC(II)-6	QJC(II)-8	QJC(II)-10
Size					
A		mm	165	210	254
B		mm	52.4	66.7	85.7
C*			A5	A6	A8
D		mm	22	17.5	25
F			M45×P1.5	M60×P1.5	M75×P2.0
G	Max.	mm	20	18.5	18
	Min.	mm	7.0	1.5	-2.0
H		mm	90	104	123
J			6-M10	6-M12	6-M16
K		mm	15	21	30
M		mm	42	52	75
N	Max.	mm	28	35	52
	Min.	mm	25.10	31.15	47.50
P		mm	32	42	45
Q		mm	45	60	80
R		mm	25	25	30
T			6-M8 Depth12	6-M8 Depth15	6-M12 Depth18
J1		mm	27	39	42
J3		mm	63	79	110

Note3 : Closed center type is also possible.



GH & GX Through-Hole 3 Jaw Power Operated Chuck (High Speed & High Accuracy)

This model provides high-repeatability, with cross-key structure that does jaw-positioning. It's available to use as high-speed rotating specification. GX-model draws workpieces into slantingly with pull-down structure to restrain jaw uplift.



Note1 : MMK has different sizes of draw-screws (F) adapting to each machine tool makers.

Note2 : MMK has both short tapered type and straight type for a main-spindle as to each machine tool makers. C* in the below size-table is a short tapered type.

Model	Unit	GH-4	GX-4	GH A5-6-53B	GX A5-6-53B	GH A6-8-66	GX A6-8-66	GX A8-10-75	GX A8-12-75
Chuck Diameter	in.	4		6		8		10	12
Permissible Max. R.P.M.	mm ⁻¹	8,400	8,600	8,000	8,200	7,000	7,200	4,500	3,200
Jaw Stroke in DIA.	mm	4.4	4.4	5.8	5.8	5.8	5.8	7.6	7.6
Sifter Stroke	mm	10	10	13	13	13	13	17	17
Max. Gripping Force	KN	23.52	23.52	44.10	44.10	71.54	71.54	94.10	114.7
Permissible Draw-pull	KN	10.00	10.00	20.58	20.58	27.73	27.73	37.20	45.1
Weight	Kg	4.5	4.5	13.0	13.0	19.0	19.0	36.0	65.0
Good Valance		G16	G16	G10	G10	G10	G10	G10	G10
Applicable Cylinder		RNKP73-10 ZKP85/22-10		-	-	2R120/21-25		ZKP170/75-20	ZKP200/78-20

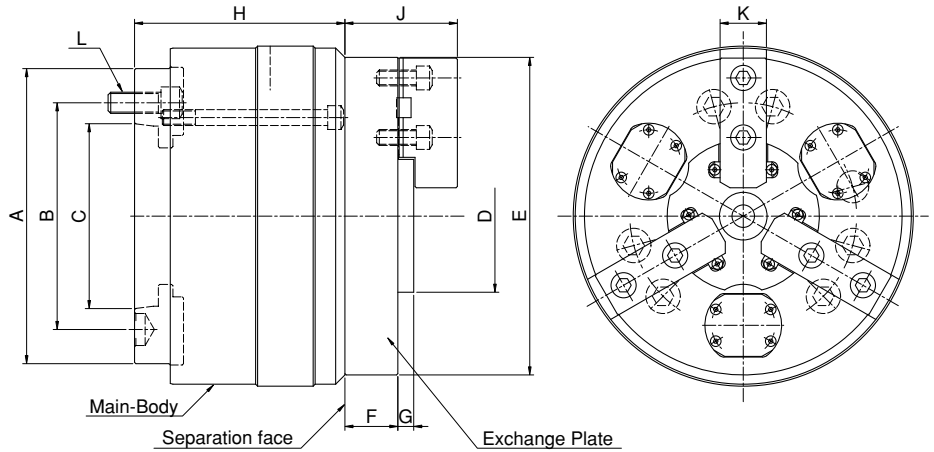
Model	Unit	GH-4	GX-4	GH A5-6-53B	GX A5-6-53B	GH A6-8-66	GX A6-8-66	GX A8-10-75	GX A8-12-75	
A	mm	116	116	172	172	200	200	254	305	
B	mm	35.300	35.300	52.400	52.400	66.675	66.675	85.700	85.7	
C*		-	-	A5	A5	A6	A6	A8	A8	
D	mm	-	-	22	22	18	18	25	30	
F		M25×P1.5	M25×P1.5	M60×P1.5	M60×P1.5	M72×P1.5	M72×P1.5	M85×P2.0	M80×P1.5	
H	mm	54	54	90	90	104	104	123	135	
J		3-M10	3-M10	6-M10	6-M10	6-M12	6-M12	6-M16	6-M16	
M	mm	21		53	53	66	66	75	75	
N	Max.	mm	19	19	36	36	43	43	52	52
	Min.	mm	16.8	16.8	33.0	33.0	40.0	40.0	48.1	48.1
P	mm	25	25	25	25	25	25	34	48	
Q	mm	-	-	48	48	55	55	65	65	
R	mm	-	-	15	15	15	15	25	25	
T		-	-	6-M8Depth15				6-M12Depth18	6-M12Depth24	

Note3 : Closed center type is also possible.

AJC Closed Center 3 Jaw Power Operated Chuck (Auto Jaw Exchange Chuck)



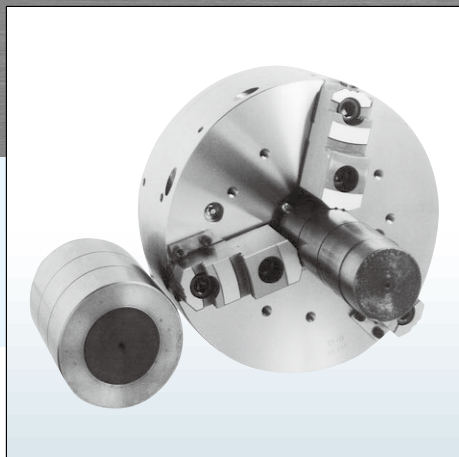
The AJC chuck is designed for automating the exchange of all jaws at once with the use of exchange plates. This chuck is suitable for small to medium volume production & is capable of providing complete automation with robotic integration.



Specification \ Model	Unit	AJCA6-8-22	AJCA8-10-35	AJCA8-12-46	AJCA11-15-72	AJCA11-18-72
Chuck Diameter	in.	8	10	12	15	18
Permissible Max. R.P.M.	mm ⁻¹	3,600	3,500	2,500	1,250	1,050
Jaw Stroke in DIA.	mm	7.6	9.0	9.0	13.3	13.3
Sifter Stroke	mm	17	20	20	30	30
Max. Gripping Force	KN	58.8	85.3	94.1	114.7	147.1
Permissible Draw-pull	KN	25.5	37.3	41.2	47.6	60.0
Chuck Weight	Kg	32	55	92	181	230
Exchange Plate Weight	Kg	8	16	21	52	75
Weight	Kg	40	71	113	233	305
Exchange Plate Clamping Stroke	mm	32	31	32	37	37
Exchange Plate Clamping Force	KN	29.4	42.6	42.6	54.9	54.9
Applicable Cylinder		ZKWP115/22-20	ZKWP150/22-20	ZKWP155/46-20	ZKWP190/72-30	ZKWP190/72-30

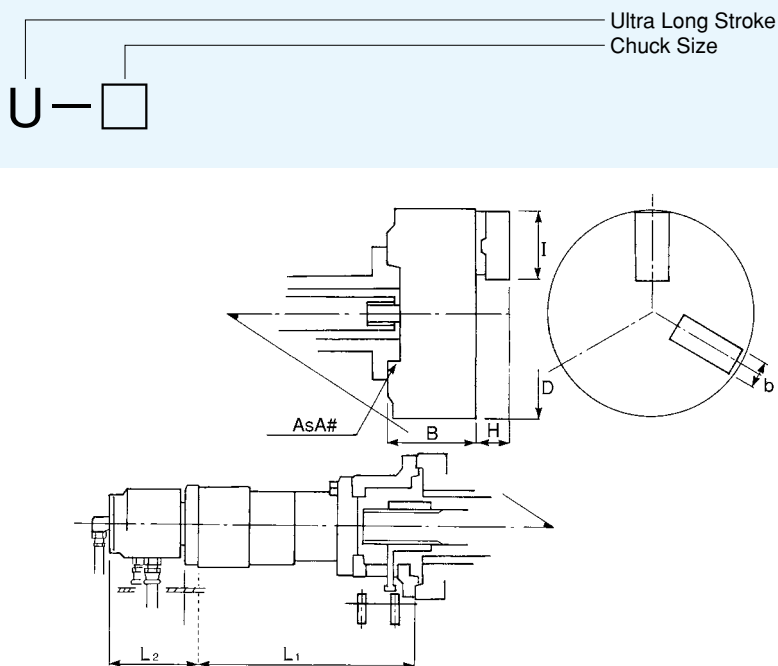
Size \ Model	Unit	AJCA6-8-22	AJCA8-10-35	AJCA8-12-46	AJCA11-15-72	AJCA11-18-72
A	mm	220	270	315	381	457
B	mm	133.4	171.4	171.4	235.0	235.0
C		A2-#6	A2-#8	A2-#8	A2-#11	A2-#11
D	mm	99	115	154	—	—
E	mm	200	240	290	381	457
F	mm	30	40	46	60	60
G	mm	12	12	12	—	—
H	mm	147.5	159	183	220	220
J	mm	63.4	85.0	92.0	126.0	126.0
K	mm	30	35	40	60	60
L		6-M12	6-M16	6-M16	6-M20	6-M20

U Closed Center 3 Jaw Power Operated Chuck



*The chuck of the picture above is chucking a workpiece.

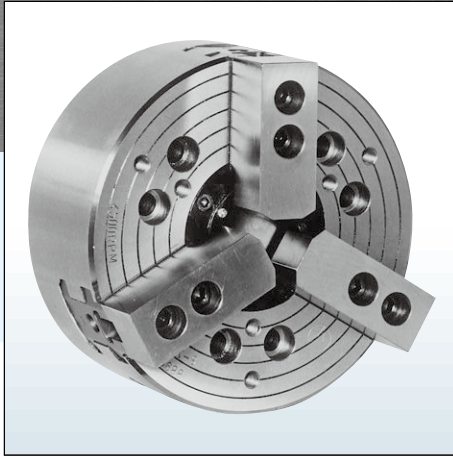
This model drives with oil-hydraulic-motor with scroll structure. It's suited for production of various kinds of small quantity by long-jaw-stroke. It keeps chucking workpiece while the spindle is rotating for operation.



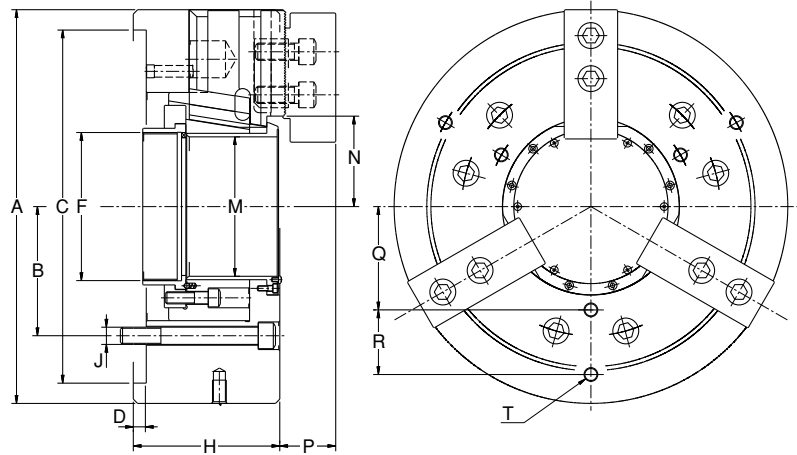
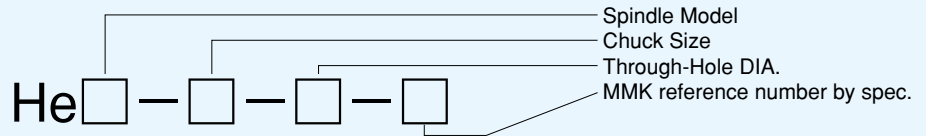
Specification		Model	Unit	U-8	U-10	U-12	U-15
Chuck Diameter			in.	8	10	12	15
Permissible Max. R.P.M.			min ⁻¹	3,000	2,500	2,000	1,500
Jaw Stroke in DIA			mm	50	60	70	100
Work-piece Diameter	Max.		mm	200	214	280	370
	Min.		mm	20	36	70	110
Max. Gripping Force			KN	41.2	49	78.4	98
			kgf	4,200	5,000	8,000	10,000
Oil Motor Torque			N·m	156.8	156.8	156.8	156.8
			kg·m	16	16	16	16
Weight			kg	28	49.5	80	130

Size		Model	Unit	U-8	U-10	U-12	U-15
D			mm	210	254	305	381
B	A2-6		mm	105	140	135	140
	A2-8		mm	115	120	140	140
H			mm	44	57.1	61.9	71.5
I (in the case of Hard-Jaws)			mm	83.6	96.5	115.2	130
b			mm	32	38	44.4	55
L1			mm	285	285	285	285
L2			mm	122	122	122	122

He Through-Hole 3 Jaw Power Operated Chuck



The He model is superior in rigidity, durability, and safety, with the **mmk** double-slide key structure. This unique 'double-slide key' is only at MMK. Also equipped with a through-hole, the He model is suitable for accurate machining of bar materials, etc.



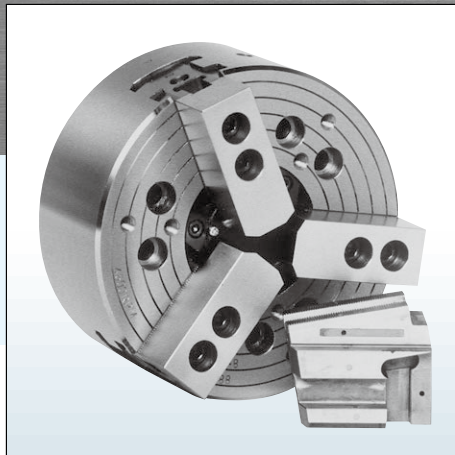
Note1 : MMK has different sizes of draw-screws (F) adapting to each machine tool makers.

Note2 : MMK has both short tapered type and straight type for a main-spindle as to each machine tool makers. C* in the below size-table is a short tapered type.

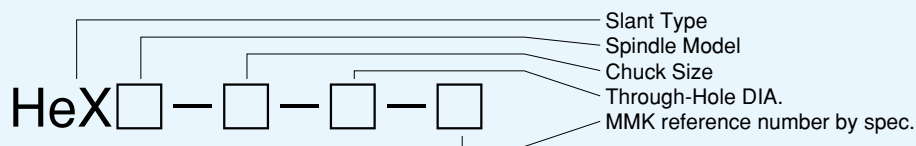
Model		Unit	HeA5-6-35	HeA6-8-46	HeA8-10-66	HeA8-12-67
Specification						
Chuck Diameter		in.	6	8	10	12
Permissible Max. R.P.M.		min ⁻¹	4,600	4,100	3,700	3,000
Jaw Stroke in DIA		mm	4.7	6.4	8	8.5
Work-piece Diameter	Max.	mm	151.2	189	228.6	274.5
	Min.	mm	5	18	34	28
Max. Gripping Force		KN	46.3	82.3	94.1	114.7
		kgf	4,725	8,400	9,600	11,700
Permissible Draw-pull		KN	17.15	28.14	36.95	42.9
		kgf	1,750	2,870	4,350	4,378
Weight		kg	16	25	40	54
Applicable Cylinder			ZKP125/46-15	ZKP150/46-20	ZKP170/69-25	

Model		Unit	HeA5-6-35	HeA6-8-46	HeA8-10-66	HeA8-12-67
Size						
A		mm	168	210	254	305
B		mm	52.4	66.7	85.7	85.7
C*			A5	A6	A8	A8
D		mm	22	17.5	25	29.5
F			M52xP1.5	M60xP1.5	M80xP2.0	M80xP2.0
H		mm	92	107	123	140
J			6-M10	6-M12	6-M16	6-M16
N	Max.	mm	31	40	50	57
	Min.	mm	28.65	36.8	46	52.8
P		mm	36	42	52	54
Q		mm	-	60	80	85
R		mm	-	25	30	45
T			-	6-M8Depth12	6-M12Depth20	6-M16Depth16

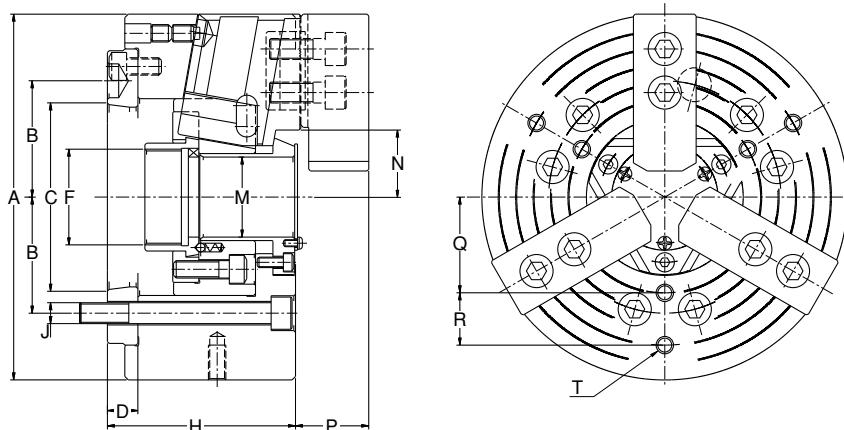
Note3 : Inquire directly to MMK about the details of 15 and 18 inch.



HeX Through-Hole Slant Type 3 Jaw Power Operated Chuck



The HeX model is superior in accuracy, rigidity, and durability ; featuring both pull-down gripping and double-slide key structures. The unique HeX chuck is an original **mmk** product.



Note1 : MMK has different sizes of draw-screws (F) adapting to each machine tool makers.

Note2 : MMK has both short tapered type and straight type for a main-spindle as to each machine tool makers. C* in the below size-table is a short tapered type.

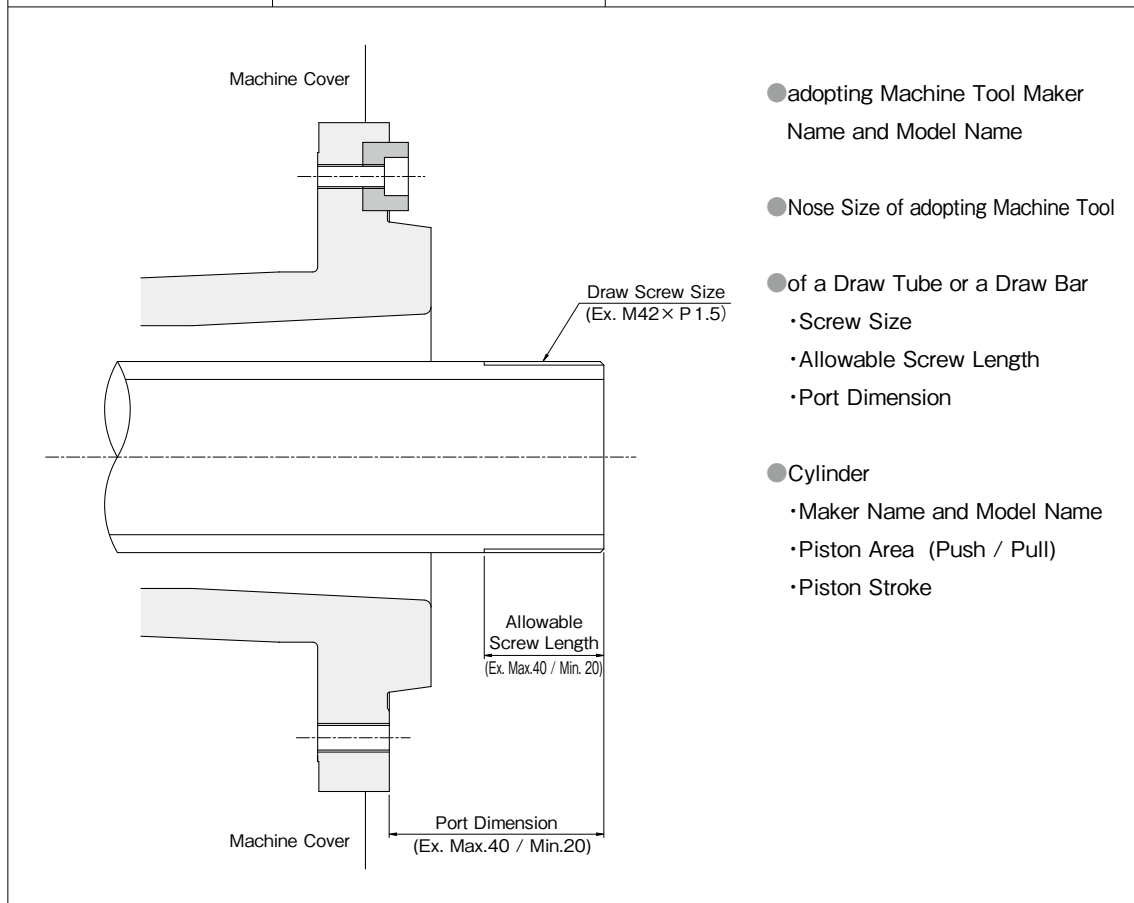
Model		Unit	HeXA6-8-46	HeXA8-10-67	HeXA8-12-78
Specification					
Chuck Diameter		in.	8	10	12
Permissible Max. R.P.M.		min ⁻¹	4,500	4,000	3,000
Jaw Stroke in DIA		mm	6.8	8.5	8.5
Work-piece Diameter	Max.	mm	189	228.6	274.5
	Min.	mm	18	15.5	45
Max. Gripping Force		KN	82.3	94.1	114.7
		kgf	8,400	9,600	11,700
Permissible Draw-pull		KN	28.2	32.1	42.9
		kgf	2,880	3,276	4,378
Weight		kg	25	37	75
Applicable Cylinder			ZKP150/46-20	ZKP170/69-25	ZKP200/69-25

Model		Unit	HeXA6-8-46	HeXA8-10-67	HeXA8-12-78
Size					
A		mm	210	254	305
B		mm	66.7	85.7	85.7
C*			A6	A8	A8
D		mm	17.5	25	29.5
F			M55xP1.5	M76xP1.5	M78xP2.0
H		mm	108	120	140
J			6-M12	6-M16	6-M16
N	Max.	mm	38.5	50	57
	Min.	mm	35.1	45.8	52.8
P		mm	42	46	54
Q		mm	55	80	85
R		mm	30	30	45
T			6-M10Depth15	6-M10Depth18	6-M16Depth20

Replacing an existing chuck

When replacing one of your existing chucks with a newer model, please refer to the following table. Even if you are using a product from another OEM, the following information is required, as it may be necessary to make adjustments to your existing setup.

Status	Required informations	Examples & References
① In the case of using mmk power chucks	<ul style="list-style-type: none"> • Model name of existing chuck • Serial number of existing chuck • Adopting machine tool maker name and model name 	⇒ Ex.) HA6-8-46-02 *1 ⇒ Ex.) 60888 (5-digit *2) or 100211 (6-digit *3) ⇒ Ex.) Hitachi Seiki / NK-20 Note: *1*2*3 are marking on chuck-surface.
② In the case of using a product from another OEM	<ul style="list-style-type: none"> • Model name of existing chuck • Drawing of existing chuck • Drawing of existing cylinder • Adopting machine tool maker name and model name 	⇒ Model name of other maker ⇒ Necessary for adjusting connection screw sizes, installation dimensions, conformity of specification etc.
③ In the case of using a product from another OEM with no required informations.	<ul style="list-style-type: none"> • Give us informations according to the sketch below 	⇒ You can't see a section as below, because it's covered with a machine-cover.



Always use **mmk** jaws

For your safety, always use **mmk** jaws on any type of **mmk** power chuck. **mmk** cannot guarantee the safety of your power chuck if you are using jaws made by another OEM.

Importance of using the correct lubricant

About grease for **mmk** power chucks and cleaning for inspection

The biggest factor to decrease durability of chuck is related to lubricant. Chuck needs to be put proper grease into every 8 hours from grease-nipples placed on the outside edge of master jaws. Especially in case of using water-soluble cutting-oil, should be increased the number of times pouring grease into the chuck. The recommend grease is listed in below.

We recommend the grease containing about 5% molybdenum disulfide and also according to basic specification on the list below.

Brand	Products Name	Consistency	Reference
SUMICO	Moly LG-S Grease No.1	310~340	mmk use
ThreeBond	ThreeBond TB 1901	330~360	
IDEMITSU	Daphne Grease M No.1	325	
Shell	Shell Alvania Grease HDX	288	
Toray·Dow Corning	MOLYKOTE EP GREASE	285	
ExxonMobile	Mobilgrease Special	280	

Note: When the numeric of consistency is lower, the grease is getting thick.

Grease Guns

We recommend a lever-style with a chucking structure type. Those clearance gaps of **mmk** power chucks are small because of high-accuracy-structure, so that infusion pressure becomes high. Those grease guns with big-bore type have possibilities to interfere with the spot facings of grease nipples. It's better to use a small-bore type to prevent interference.

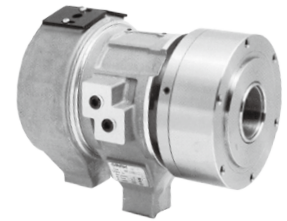
Mixing/Changing Grease

We don't recommend using the grease mixing different kinds. Grease includes some kind of additives, but it isn't shown for trade secrets of each grease makers. In the case of using the grease mixing different kinds, the phenomenon such as hardening may occur. When such a phenomenon occurs or when you change it for other kind of grease, disassemble the chuck and clean it, to fill whole quantity with new grease.

Overview of **mmk** Cylinders

Refer to the diagram below. If the cylinder you are looking for is not listed, please contact an **mmk** application specialist.

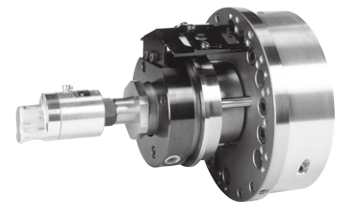
Characteristic		mmk Cylinders				
		ZKP	RNKP	2R	RNW	AVKP
Structure · Specification · Peculiarly · Application	Through-Hole	<input type="radio"/>				<input type="radio"/>
	Closed Center		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	Chuck Valve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Positioning Dock	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Abundant Rotary Joint			<input type="radio"/>		
	Double Cylinder				<input type="radio"/>	
	Hydraulic Medium	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	Air Pressure Medium					<input type="radio"/>
Sizes: Cylinder Diameter/Standard Through-Hole Diameter	Cylinder Diameter	Through-Hole Diameter				
	59	/21	<input type="radio"/>			
	60			<input type="radio"/>		
	66			<input type="radio"/>		
	70	/21				
	73			<input type="radio"/>		
	86				<input type="radio"/>	
	88					<input type="radio"/>
	91			<input type="radio"/>		
	100	/24, 34	<input type="radio"/>			<input type="radio"/>
	105			<input type="radio"/>		
	110					<input type="radio"/>
	120			<input type="radio"/>	<input type="radio"/>	
	125	/34, 42, 46	<input type="radio"/>	<input type="radio"/>		
	130					<input type="radio"/>
	135			<input type="radio"/>		
	150	/46, 52, 66	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	165			<input type="radio"/>		<input type="radio"/>
	170	/69, 72, 75, 78, 80	<input type="radio"/>	<input type="radio"/>		
	185	/93	<input type="radio"/>			
	190	/93				<input type="radio"/>
	195		<input type="radio"/>			
	200	/85	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	230	/120	<input type="radio"/>			
280	/165, 175	<input type="radio"/>				
295	/184	<input type="radio"/>				
335	/204	<input type="radio"/>				
385	/267	<input type="radio"/>				
400	/230	<input type="radio"/>				
420	/267	<input type="radio"/>				



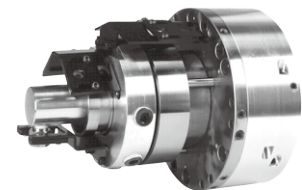
Through-Hole (ZKP)



Short (RNKP)



Abundant Rotary Joint (2R)



Double Cylinder (RNW)

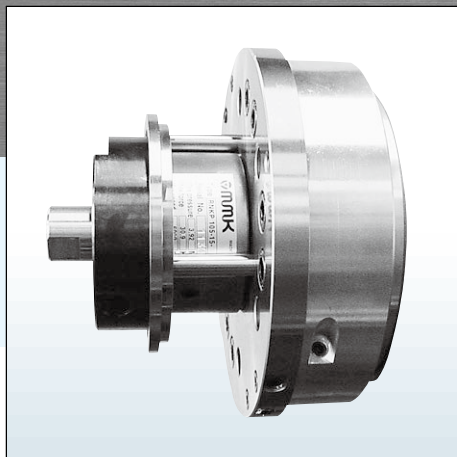
*In the list of left side, it's the diameter of the large-cylinder.



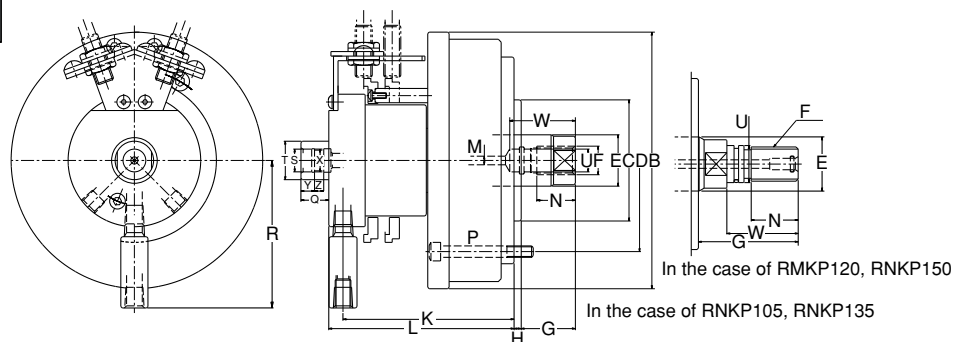
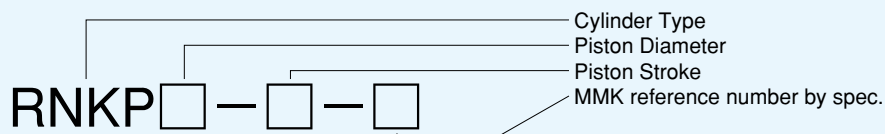
Air Cylinder (AVKP)

(Unit: mm)

RNKP Short Type Closed Center Turning Hydraulic Cylinder



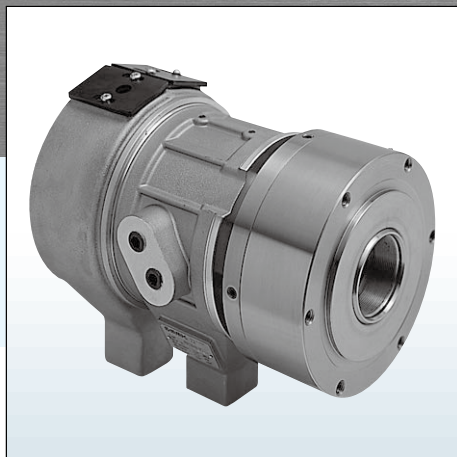
The RNKP cylinder has a compact design to save valuable machine space.



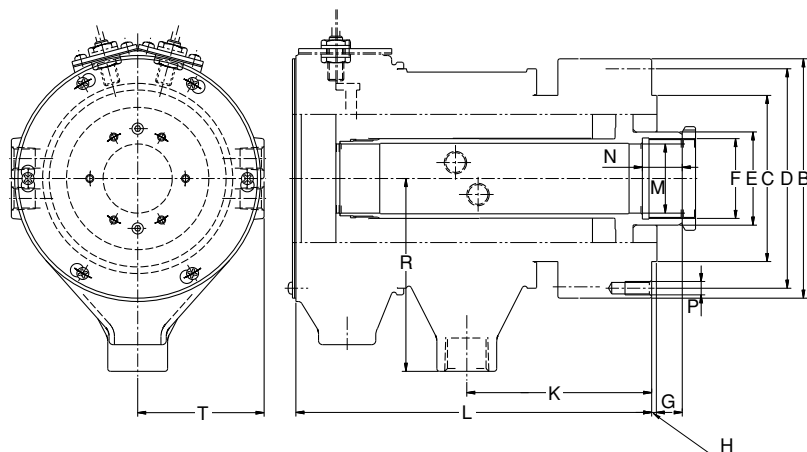
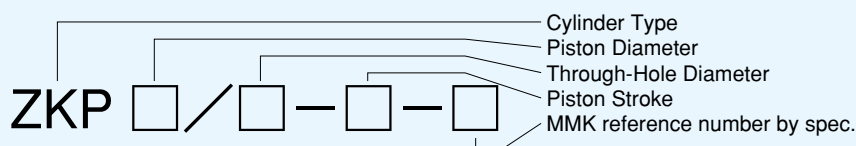
Specification		Model	Unit	RNKP105-15-02	RNKP105-15-09	RNKP120-25-07	RNKP120-25-08	RNKP135-25-01	RNKP135-25-02	RNKP150-35-01	RNKP150-35-02
Piston Area	Push	cm ²		83	83	109.5	109.5	141.9	141.9	175.5	175.5
	Pull	cm ²		76.4	76.4	101.7	101.7	132.9	132.9	165.4	165.4
Draw Pull	Push	KN		29.3	29.3	38.6	38.6	50.1	50.1	61.9	61.9
		kg		2,988	2,988	3,942	3,942	5,108	5,108	6,318	6,318
	Pull	KN		27	27	35.9	35.9	46.9	46.9	58.3	58.3
		kg		2,750	2,750	3,661	3,661	4,784	4,784	5,954	5,954
Piston Stroke	mm		15	15	25	25	25	25	35	35	
Pouring Water			—	有	—	有	—	有	—	有	
Max. Turning Speed	min ⁻¹		6,000	6,000	5,000	5,000	5,000	5,000	4,200	4,200	
Max. Pressure	Mpa		3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	
	kg/cm ²		40	40	40	40	40	40	40	40	
Weight	kg		11.5	11.5	12.7	12.7	16.8	16.8	17.5	17.5	

Size		Model	Unit	RNKP105-15-02	RNKP105-15-09	RNKP120-25-07	RNKP120-25-08	RNKP135-25-01	RNKP135-25-02	RNKP150-35-01	RNKP150-35-02
B	mm			180	180	192	192	225	225	222	222
C	mm			85	85	120	120	120	120	110	110
D	mm			128	128	150	150	160	160	175	175
E	mm			36	36	38	38	36	36	38	38
F				M20×P2.5	M20×P2.5	M24×P3.0	M24×P3.0	M20×P2.5	M20×P2.5	M24×P3.0	M24×P3.0
G	Max.	mm		53	53	95	95	58	58	105	105
	Min.	mm		38	38	70	70	33	33	70	70
H	mm			5	5	5	5	5	5	5	5
K	mm			120	120	129	129	129	129	167	167
L	mm			130	130	139	139	139	139	180	180
M	mm			6	6	6	6	6	6	6	6
N	mm			27	27	38	38	27	27	38	38
P				6-M8	6-M8	6-M10	6-M10	6-M10	6-M10	6-M12	6-M12
R	mm			103.5	103.5	46.5	46.5	103.5	103.5	103.5	103.5
S	mm			—	16	—	16	—	16	—	16
T	mm			—	27	—	27	—	27	—	27
U	mm			16	16	26	26	16	16	26	26
W	mm			46	46	50	50	46	46	50	50
X				—	M16×P1.5	—	M16×P1.5	—	M16×P1.5	—	M16×P1.5
Y	mm			—	9.5	—	9.5	—	9.5	—	9.5
Z	mm			—	6.5	—	6.5	—	6.5	—	6.5

ZKP Big-bore type Through-Hole Rotating Hydraulic Cylinder



The ZKP model is equipped with a large through-hole and is best suited for high speed turning. A built-in lock valve comes standard as a safety precaution.



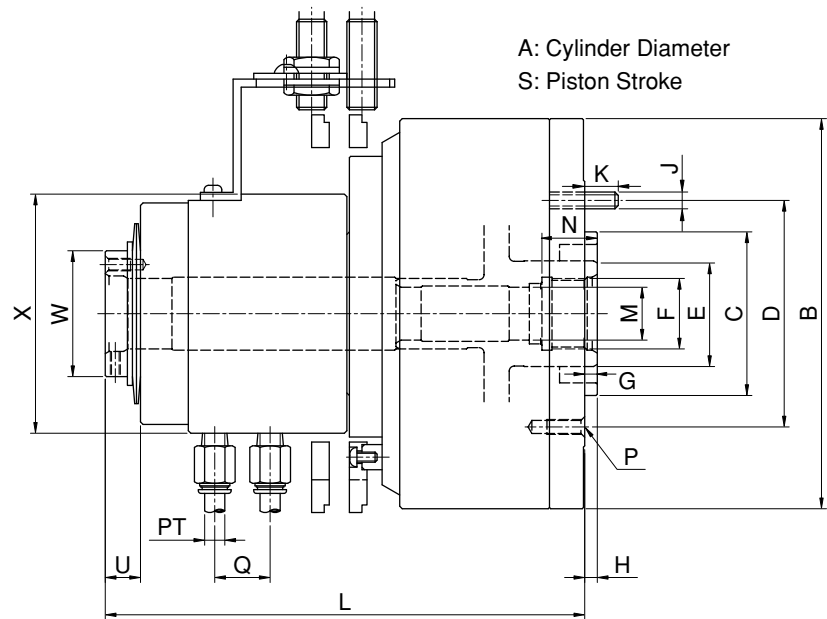
Specification		Model	Unit	ZKP150/66-17	ZKP170/80-20	ZKP195/93-20	ZKP280/175-30	ZKP335/204-30	ZKP400/230-30
Piston Area	Push	cm ²		126.4	163.36	211.95	332.2	501	745.9
	Pull	cm ²		119.9	145.26	194.68	317.1	465.7	705
Draw Pull	Push	KN		33.4	50.4	65.4	87.9	110.5	230.3
		kg		3,413	5,146	6,676	8,969	11,273	23,495
	Pull	KN		31.7	44.8	60.1	83.9	102.7	217.6
		kg		3,237	4,576	6,132	8,562	10,478	22,207
Piston Stroke		mm		17	20	20	30	30	30
Through-hole DIA.		mm		66	80	93	175	204	230
Max. Rotation Speed		min ⁻¹		5,300	4,300	4,000	2,400	1,100	575
Max. Pressure		Mpa		2.94	3.43	3.43	2.94	2.45	3.43
		kg/cm ²		30	35	35	30	25	35
Weight		kg		27	38	46.5	155	195	350

Size		Model	Unit	ZKP150/66-17	ZKP170/80-20	ZKP195/93-20	ZKP280/175-30	ZKP335/204-30	ZKP400/230-30
B		mm		183	213	240	330	385	470
C		mm		125	145	180	220	280	315
D		mm		165	185	215	298	360	432
E		mm		85	102	115	195	230	265
F				M72×P1.5	M90×P2.0	M103×P2.0	M185×P3.0	M215×P3.0	M245×P3.0
G	Max.	mm		19	26	21	35	35	35
	Min.	mm		2	6	1	5	5	5
H		mm		4	4	7	7	7	7
K		mm		139	177	187	228	286	297
L		mm		295.1	349.5	367.5	469.8	571.6	648
M		mm		66	80	93	175	204	230
N		mm		35	35	35	45	45	45
P				12-M10Depth20	12-M10Depth20	12-M12Depth24	12-M12Depth24	12-M16Depth32	12-M20Depth40
R		mm		160	180	190	305	360	368
T		mm		105	115	128	199	227	250

AVKP Through-Hole High-Speed Rotation Air Cylinder



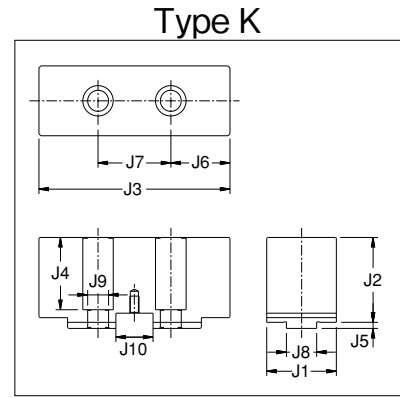
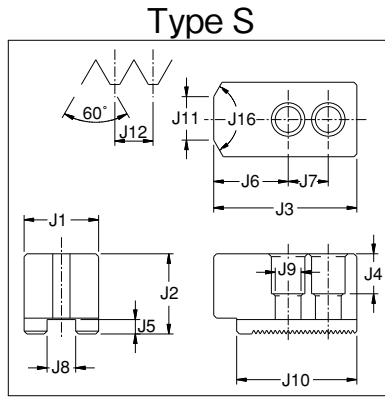
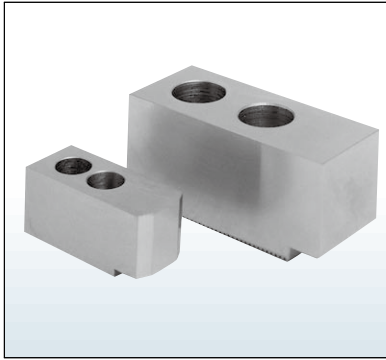
The AVKP air cylinder is for an NC lathe which does not have a hydraulic unit. Utilizing a compact design, this air cylinder is for high-speed rotation.



Specification		Model	Unit	AVKP88/8-5	AVKP130/21-15	AVKP165/31-15	AVKP190/31-15
Piston Area	Push		cm ²	59.2	124.2	202.4	275
	Pull		cm ²	56.9	119	190	259.7
Max. Pressure			Mpa	0.98	0.78	0.78	0.78
			kgf/cm ²	10	8	8	8
Min. Operation pressure			Mpa	0.12	0.08	0.08	0.08
			kgf/cm ²	1.2	0.8	0.8	0.8
Piston Stroke			mm	5	15	15	15
Cylinder Diameter			mm	88	130	165	190
Max. Rotation Speed			min ⁻¹	10,000	8,000	6,000	5,000
Weight			kg	4.8	7.5	9.4	10.4

Size		Model	Unit	AVKP88/8-5	AVKP130/21-15	AVKP165/31-15	AVKP190/31-15
A			mm	88	130	165	190
B			mm	119	155	190	215
C			mm	80	65	80	80
D			mm	105	90	100	100
F				M15xP1.5	M28xP1.5	M42xP1.5	M42xP1.5
G	Max.		mm	23.5	5	15	15
	Min.		mm	18.5	-10	0	0
H			mm	5	5	5	5
J				M6	-	-	-
K			mm	9	-	-	-
L			mm	144	190.5	198	190.5
M			mm	12	22	25	25
N			mm	25	21	31	21
P				-	6-M6x15	6-M10x18	6-M10x18
Q			mm	-	22	22	22
S			mm	5	15	15	15
U			mm	8	14	21.5	14
W			mm	25	50	50	50
X			mm	81	95	95	95
PT			mm	8	8	8	8

Standard Soft Jaws



(Unit : mm)

Jaw Type	Chuck Size	Code No.	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J16	Bolt Size	Applicable Series
S	4	61040008	26	28	50	14	5	26	14	10	9	42	6	1.5	120°	M8×28	H
	4, 5	4605027	23	28	50	14	5	26	14	10	9	42	6	1.5	120°	M8×28	Z-4, Z-5
	5	61060104	23	25	65	15	5	38	19	10	9	65	5	1.5	120°	M8×22	HX, HHX
	6	60060001	30	34	80	26	3.5	41	25	11	9	70	6	1.5	90°	M8×22	H
		62061640	27	30	70	20	5	33	25	11	9	51	5	1.5	120°	M8×25	Z
	8	60080001	36	40	90	25	5	45	25	14	13	65	20	1.5	120°	M12×32	H
		62080904	34	40	79	25	5	39	25	14	13	58	15	1.5	120°	M12×32	Z
	10, 11	60100001	40	48	110	31	6	50	30	16	13	90	25	1.5	120°	M12×32	H
		60100101	40	48	103	31	6	50	32	16	13.5	88	25	1.5	120°	M12×32	H*
		60100301	40	42	110	27	5	50	30	16	13	75	16	1.5	120°	M12×32	Z
	12	60120001	50	50	130	33	6	60	30	18	15	100	30	1.5	120°	M14×40	H
		60120101	50	50	140	33	6	68	32	18	15	102.5	20	1.5	90°	M14×40	H*
		4612165	46	50	112	33	6	52	30	18	15	90	25	1.5	120°	M14×40	Z
		4612164	46	50	112	33	6	52	32	18	15	90	25	1.5	120°	M14×40	Z*
15, 18	60150101	62	62	150	43	8.5	55	50	22	22	122.5	62	3	-	M20×50	H	
	3615102	58	62	140	43	8.5	60	50	22	22	120	58	3	-	M20×50	Z	
K	21~24	3624011	73	95.3	200	75.8	6.3	61.9	76.2	31.75	22	38.88	-	-	-	M20	HH
	28~40	3632006	80	95.3	200	75.8	6.3	61.9	76.2	31.75	22	38.88	-	-	-	M20	HH

Special Soft Jaws

Rotation speed and gripping force are limited with using special soft jaws mentioned in below.

(Unit : mm)

Jaw Type	Chuck Size	Code No.	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J16	Specification	Applicable Series
S	8	60080301	36	40	100	25	5	55	25	14	13	65	3	1.5	90°	for small dia	H, Z
		60080004	36	60	90	45	5	45	25	14	13	65	20	1.5	120°	J2 : 60	H, Z
		60080007	36	70	90	55	5	45	25	14	13	65	20	1.5	120°	J2 : 70	H, Z
		60080003	36	80	90	65	5	45	25	14	13	65	20	1.5	120°	J2 : 80	H, Z
	10, 11	4610112	40	48	125	31	6	65	30	16	13	90	10	1.5	90°	for small dia	H, Z
		60100003	40	60	110	43	6	50	30	16	13	90	25	1.5	120°	J2 : 60	H, Z
		60100005	40	70	110	43	6	50	30	16	13	90	25	1.5	120°	J2 : 70	H, Z
		60100004	40	80	110	63	6	50	30	16	13	90	25	1.5	120°	J2 : 80	H, Z
		60100106	40	48	118	31	6	65	32	16	13.5	88	10	1.5	90°	for small dia	H, Z*
		60100103	40	60	103	43	6	50	32	16	13.5	88	25	1.5	120°	J2 : 60	H, Z*
	12	60100104	40	80	103	63	6	50	32	16	13.5	88	25	1.5	120°	J2 : 80	H, Z*
60120006		50	90	130	73	6	60	30	18	15	100	30	1.5	120°	J2 : 90	H, Z	

*Applicable to only former Hitachi-Seiki NC Lathe

Soft Jaws for GH/GX Chuck

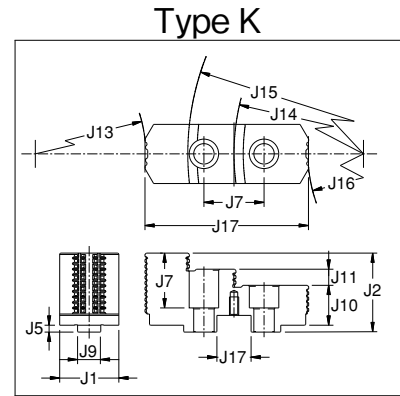
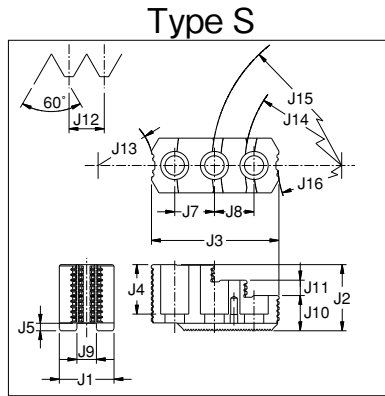
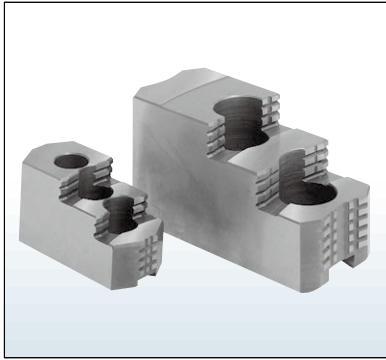
(Unit : mm)

Chuck Size	Soft Jaw No.	Code No.	Purpose	Chucking Range (φ)	Jaw height	Jaw Width
4	407	4604166△3	small dia gripping	4~104	23.5	21
6	621	4606498△2	small dia gripping*	25~72	23.5	24
	623	4606574△4	large dia gripping*	72~154.8	38	30
8	818	4608812△5	small dia gripping*	25~90	23.5	24
	819	4608839△4	large dia gripping*	90~180	27	39
	826	46081342△	minimum dia gripping	16~90	23.5	24
10	1029	3610557△		34~228	29	28
12	1220	3612597△		45~274	43	46

*For high speed rotation spec. of G series, 6in. & 8in. have different kinds of jaws depending on chuking-dia.

Standard Hard Jaws

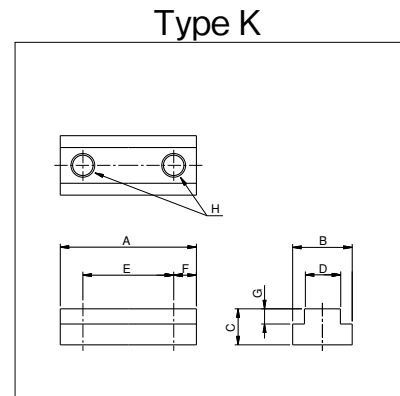
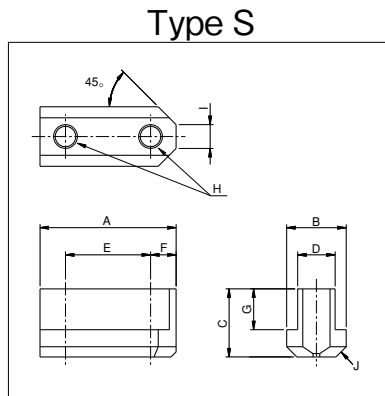
T-Nuts are included with any set of hard jaws.



(Unit : mm)

Jaw Type	Chuck Size	Code No.	J1	J2	J3	J4	J5	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J17	Bolt Size	Applicable Series
S	6	3606059	32	36	72.2	27	4	16	16	11	18	9	1.5	R37	R58.5	R80	-	-	M8	H, Z
	8	3608040	40	48	90.6	35	4	20	20	14	26	11	1.5	R46	R73.5	R101	-	-	M12	H, Z
	10, 11	3610042	45	56	100.5	40	6	25	25	16	30	13	1.5	R61.5	R93.5	R125.5	-	-	M12	H, Z
	12	3612030	50	62	111.5	45	6	30	30	18	32	15	1.5	R78	R114	R150	-	-	M14	H, Z
	15, 18	3615044	62	66.5	144.4	56	8.5	50	-	22	40	17.5	3	R62.5	R137.5	R175	R100	-	M20	H, Z
K	21~40	3228004	73	95.3	141	75.8	6.3	76.2	-	31.75	38.2	25.4	-	R235	R289	R340	R235	38.88	M20	HH

T-Nuts



(Unit : mm)

T-Nut Type	Chuck Size	Code No.	A	B	C	D	E	F	G	H	J	I	Soft Jaw/ Hard Jaw	Applicable Series
S	4, 5	4604012	26	17	19	10	14	6	12	M8	C3	4	Soft Jaws	Z, HH
	5	61060105	30	15	16.5	10	19	5.5	11	M8	-	5	Soft Jaws	HX, HHX
	6	60060002	40	17.5	20	11	25	7.5	12.5	M8	C3	7	Soft Jaws	Z, H, HH
		4606067	31	17.5	20	11	16	7.5	12.5	M8	C3	7	Hard Jaws	Z, H, HH
	8	60080002	45	20	23	14	25	10	14.5	M12	C4	10	Soft Jaws	Z, H, HH
		4608090	40	20	22	14	20	10	13.5	M12	C4	10	Hard Jaws	Z, H, HH
	10	60100002	50	23	23	16	30	10	15	M12	C4	15	Soft Jaws	Z, H, HH
		60100102	52	23	23	16	32	10	15	M12	C4	15	Soft Jaws	Z, H, HH*
		4610066	45	23	23	16	25	10	15	M12	C4	15	Hard Jaws	Z, H, HH
	12	60120002	54	29	30	18	30	12	16	M14	C6	15	Soft Jaw Hard Jaw	Z, H, HH
60120102		56	29	30	18	32	12	16	M14	C6	15	Soft Jaw	Z, H, HH*	
15, 18, 22	60150102	80	34	39.5	22	50	15	20	M20	C6	12	Soft Jaw Hard Jaw	Z, H, HH	
K	21, 24~40	4228006	114.2	40	30.2	30	76.2	19	17.5	M20	C1	-	Soft Jaw Hard Jaw	HH

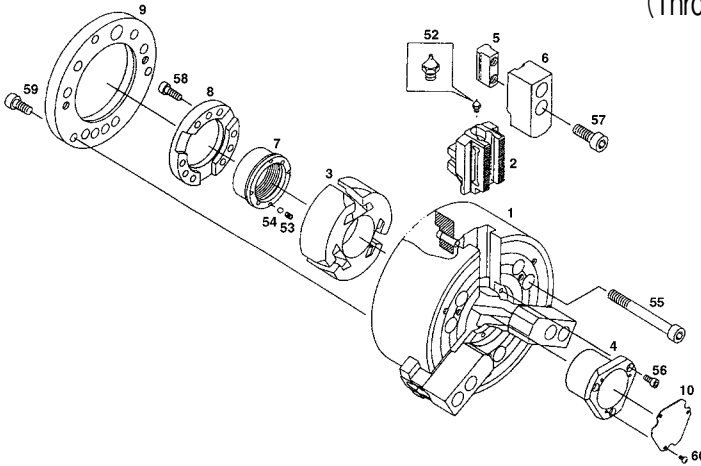
*Applicable to only former Hitachi-Seiki NC Lathe

Note 1 : Specification are subject to change for improvement without notice.

Note 2 : Accuracy and capacity data may vary depending on any conditions such as temperature, etc. These numbers are not guaranteed.

Parts List for Z Type Power Operated Chucks

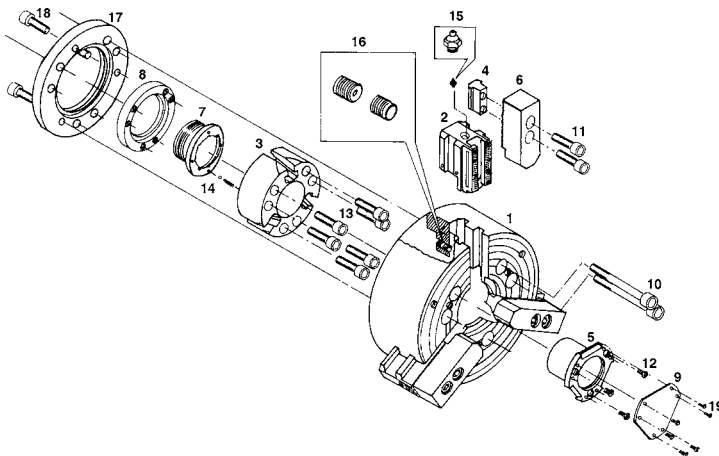
(Through-Hole Type)



NO.	Part Name
1	Chuck Body
2	Master Jaw
3	Shifter
4	Cap
5	T-Nut (Jaw-Nut)
6	Soft Jaw
7	Draw Screw
8	Thrust Block
9	Rear Plate
10	Cover Lid
52	Grease Nipple
53	Spring
54	Steel Ball
55	Cap Screw
56	Cap Screw
57	Cap Screw
58	Cap Screw
59	Cap Screw
60	Cap Screw

Parts List for He Type Power Operated Chucks

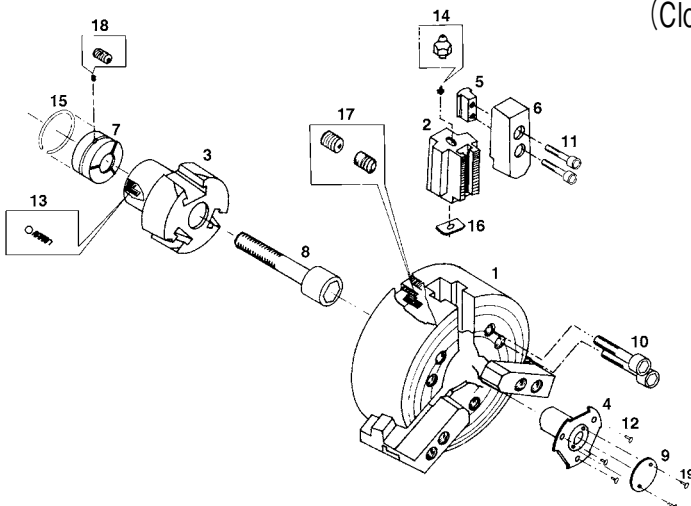
(Through-Hole Type)



NO.	Part Name
1	Chuck Body
2	Master Jaw
3	Shifter
4	T-Nut (Jaw-Nut)
5	End Plate
6	Soft Jaw
7	Draw Screw
8	Thrust Block
9	Cover Lid
10	Cap Screw
11	Cap Screw
12	Cap Screw
13	Cap Screw
14	Steel Ball
15	Grease Nipple
16	Safety Screw
17	Rear Plate
18	Cap Screw
19	Cap Screw

Parts List for HH Type Power Operated Chucks

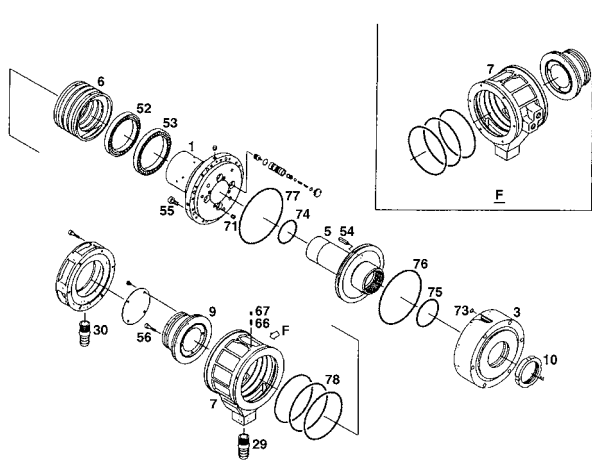
(Closed Center Type)



NO.	Part Name
1	Chuck Body
2	Master Jaw
3	Shifter
4	End Plate
5	T-Nut (Jaw-Nut)
6	Soft Jaw
7	Draw Nut
8	Draw Bolt
9	Cover Lid
10	Cap Screw
11	Cap Screw
12	Cap Screw
13	Steel Ball
14	Grease Nipple
15	Circle Spring
16	Dust Plate
17	Safety Screw
18	Set Screw
19	Cap Screw

Parts List for ZKP Type Hydraulic Cylinders

(Through-Hole Type)

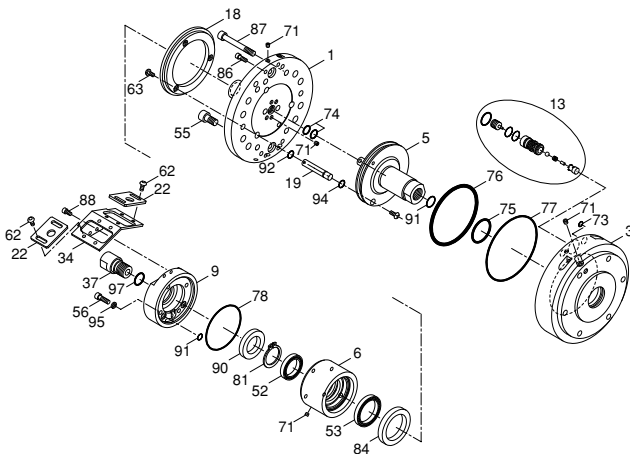


NO.	Part Name
1	Cylinder Body (A)
3	Cylinder Body (B)
5	Piston
6	Distributor
7	Distributor Case
9	End plate
10	Nut
29	Drain Joint
30	drain Joint
52	Ball Bearing#
53	Ball Bearing#
54	Spring Roll Pin
55	Cap Screw
56	Cap Screw
66	Set Screw
67	Set Screw
71	Plug

NO.	Part Name
73	"O" Ring
74	"O" Ring
75	"O" Ring
76	"O" Ring
77	"O" Ring
78	"O" Ring

Parts List for RNKP Type Hydraulic Cylinders

(Closed Center Type)



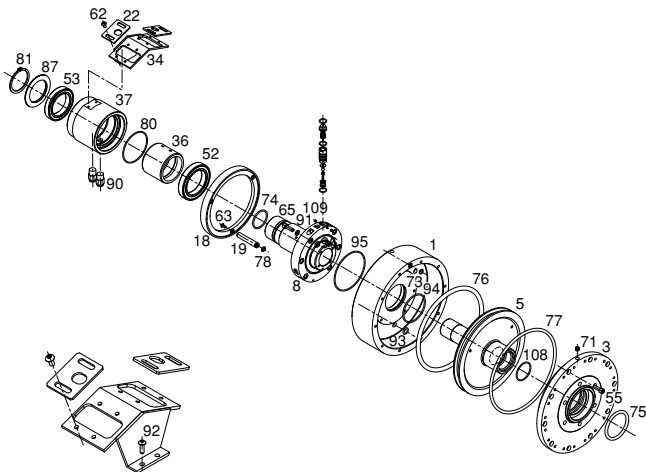
No.	Part Name
1	Cylinder Body (A)
3	Cylinder Body (B)
5	Piston
4	End Plate
6	Distributor
9	End plate
13	Check Valve Unit
18	Dog (A)
19	Dog Bar
22	Plate
34	Stay
37	Bushing
52	Bearing
53	Bearing
55	Cap Screw
56	Cap Screw
62	Bolt
63	Bolt

No.	Part Name
71	Plug
73	"O" Ring
74	"O" Ring
75	"O" Ring
76	"O" Ring
77	"O" Ring
78	"O" Ring
81	Snap Ring
84	Oil Seal
86	Cap Screw
87	Cap Screw
88	Cap Screw
90	Oil Seal
91	"O" Ring
92	"O" Ring
94	"O" Ring
95	Seal Washer
97	"O" Ring

*No.37 and No.97 are only for Coolant-Through specification.

Parts List for AVKP Type Air Cylinders

(Through-Hole Type)



No.	Part Name
1	Cylinder Body (A)
3	Cylinder Body (B)
5	Piston
8	Shaft
9	End plate
18	Dog
19	Dog Bar
22	Plate
34	Stay
36	Bushing
37	Sleeve
52	Bearing
53	Bearing
55	Bolt
62	Bolt
63	Bolt
65	Bolt

No.	Part Name
71	Plug
73	"O" Ring
74	"O" Ring
75	"O" Ring
76	"O" Ring
77	"O" Ring
78	"O" Ring
81	Snap Ring
87	Spring
90	Joint
91	Seal Washer
92	Bolt
93	"O" Ring
94	"O" Ring
95	"O" Ring
108	"O" Ring
109	Set Screw

Application Examples



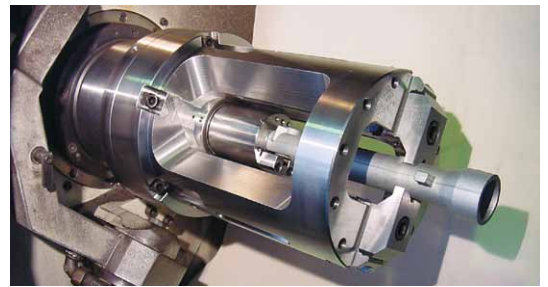
Model Name: HHA11-28-10
 Kind of Machine: Vertical Lathe
 Workpiece: Base Carrier parts for Power Shovel
 Chuck Diameter: 28inch ($\phi 711\text{mm}$)
 Nose: A2-#11
 Reference: Drives only one in three jaws, Max. R.P.M.400



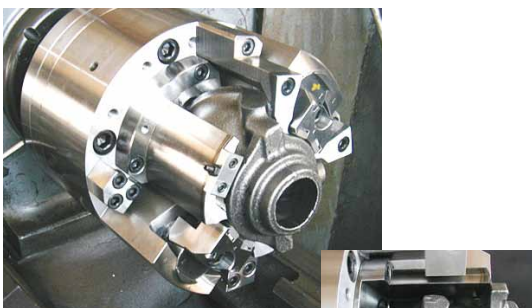
Model Name: K4JA6-8B-01
 Kind of Machine: Horizontal Lathe
 Workpiece: Cooling fans for vehicles (8 pieces of Blades, Die-Cast Aluminum)
 Chuck Diameter: 8inch ($\phi 203.2\text{mm}$)
 Nose: A2-#6
 Reference: Cam lever type of 4-jaws, Max. R.P.M. 3,000



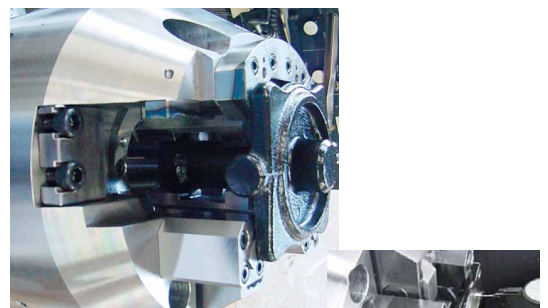
Model Name: HPCJA8-12
 Kind of Machine: Combined Lathe (Second Process)
 Workpiece: Die-Cast Aluminum, Turning & Milling
 Chuck Diameter: 12inch ($\phi 305\text{mm}$)
 Nose: A2-#8
 Reference: Cam Slot type of 2-jaws (Pull-down, Swivel Face Clamp)



Model Name: PFJA8-10
 Kind of Machine: Horizontal Lathe
 Workpiece: front fork for motorcycle
 Chuck Diameter: 10inch ($\phi 254\text{mm}$)
 Nose: A2-#8
 Reference: wedge-type of 2-jaws, leap-over clamping (long stroke), Max. R.P.M. 2,500



Model Name: PBJA6-10-02
 Kind of Machine: Horizontal Lathe
 Workpiece: Parts for Automobiles
 Chuck Diameter: 10inch ($\phi 254\text{mm}$)
 Nose: A2-#6
 Reference: Power-Bar type of 2-jaws (Pull-down), Max. R.P.M. 2,000



Model Name: ZLJA6-1
 Workpiece: hydraulic component
 Chuck Diameter: 10inch ($\phi 254\text{mm}$)
 Nose: A2-#6
 Reference: wedge-type of 2-jaws, jaw-stroke $\phi 20\text{mm}$, leap-over clamping, Drives only one in two jaws, Max. R.P.M. 1,500



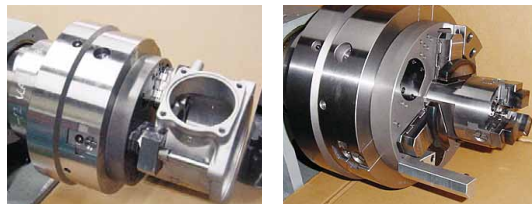
Model Name: HPC-7-01
 Kind of Machine: Horizontal Lathe
 Workpiece: Thin-Ring (Thickness:2mm)
 Chuck Diameter: 7inch (φ 178mm)
 Nose: Strait Type
 Reference: Combination-Chuck, Face Clamping of 3inch+7inch,
 Built-in Air Cylinder, Max. R.P.M. 2,000,
 The right side of above is a rotary joint



Model Name: KW4JA8-12-85
 Kind of Machine: Combined Machine
 Workpiece: Square Timber
 Reference: Cam Lever type of 4-jaws, Two sets of jaws
 facing each other operate independently.,
 Double Cylinder



Model Name: STC-8-52
 Kind of Machine: Machining Center
 Workpiece: Gear-Wheel
 Chuck Diameter: 8inch (φ 203.2mm)
 Reference: Wedge-type of Stationary Chuck (non-rotation),
 Trimming inner jaws, Work mounting confirmation structure



Model Name: AJCA8-12-35-07 Kind of Machine: Combined Machine
 Workpiece: motor case, die-cast aluminum
 Chuck Diameter: 12inch (φ 304.8mm)
 Nose: A2-#8
 Reference: work-stopper/rotation direction positioning/
 balance weight for exchange plates, Max. R.P.M. 2,500,
 picture below: exchange plate samples

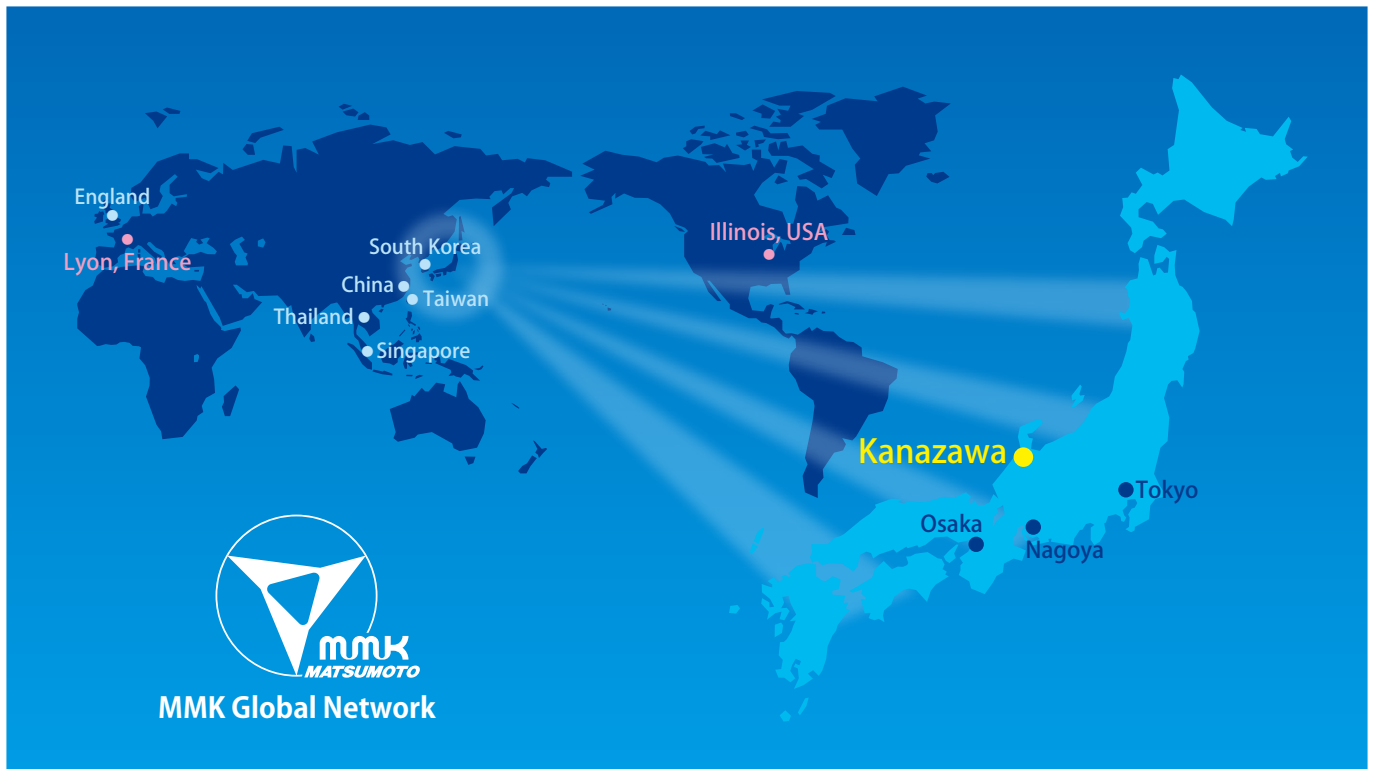


Model Name: K5JA8-20-07
 Kind of Machine: Horizontal Lathe
 Workpiece: Aluminum wheels for automobiles (14inch to 20inch),
 Remachining (finishing process after coating)
 Chuck Diameter: 20inch (φ 508mm)
 Nose: A2-#8
 Reference: Cam lever type of 5-jaws, Max. R.P.M. 1,800



Model Name: Z6JA8-15-120B-03
 Kind of Machine: Horizontal Lathe
 Workpiece: Aluminum wheels for automobiles (14inch to 20inch),
 Remachining (finishing process after coating)
 Chuck Diameter: 15inch (φ 381mm)
 Nose: A2-#8
 Reference: Wedge type of 6-jaws





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